ORDER NO. VRD9803012C2

Service Manual

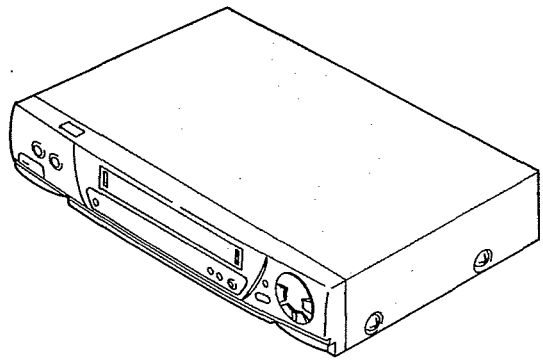
General Description
Adjustment Procedures
Block / Schematic Diagrams
Exploded Views / Parts List

Video Cassette Recorder

Panasonic VHS PAL HQ

NV-SD430 EG B BL

Z-MECHANISM



SPECIFICATIONS

ITEM	SPECIFICATION		ITEM	SPECIFICATION
POWER	SOURCE :220 V– 240 V, 50/60 Hz		VIDEO	OUTPUT : EURO AV Connector (21 pin X2) 1.0 Vp-p, 75 Ω terminated
	CONSUMPTION :19 watts		AUDIO	HEAD : 1 Stationary head (Normal Audio)
RECORDING SYSTEM	2 rotary heads, helical scanning system			INPUT : EURO AV Connector (21 pin X2) AUDIO IN Connector (Phono type) – 6 dBV (500 mV), More than 10kΩ
	PAL			OUTPUT : EURO AV Connector (21 pin X2) – 6 dBV (500 mV), Less than 1kΩ
TV TUNER SYSTEM	SD430EG	VHF :CH E2– CH E12 CH A– CH H2 (ITALY), 75 Ω unbalanced UHF :CH 21– CH 69, 75 Ω unbalanced CATV :CH S01– CH S41 CH S01– CH S05(S1-S3) CH S1– CH S20(M1-U10) CH S21– CH S41(8MHz), 75 Ω unbalanced	TAPE FORMAT	VHS Cassette tape (Tape width 12.7 mm)
	SD430B	UHF :CH 21– CH 69, 75 Ω unbalanced	TAPE SPEED	SP : 23.39 mm/s LP : 11.7 mm/s Record / Playback Time : SP : 4 hours with 240 min. type tape (NV-E240) LP : 8 hours with 240 min. type tape (NV-E240) FF / REW Time : Approx. 90 seconds with 180 min. type tape (NV-E180)
	SD430BL	VHF :CH A– CH J, 75 Ω unbalanced UHF :CH 21– CH 69, 75 Ω unbalanced CATV :104– 470MHz 75 Ω unbalanced	OPERATING CONDITION	Temperature : 5 °C – 40 °C Humidity : 35 % – 80 %
RF OUT SYSTEM	UHF : CH 21– CH 69 71±3dBμ,75 Ω terminated		DIMENSIONS	430 (W) X 87 (H) X 297 (D) mm
VIDEO	HEADS : 4 rotary heads 1 pair for recording and playback (L-R heads) 1 pair for trick play (L'-R' heads)		WEIGHT	4.0 kg
	INPUT : EURO AV Connector (21 pin X2) VIDEO IN Connector (Phono type) 1.0 Vp-p, 75 Ω terminated		STANDARD ACCESSORIES	1 pc. Remote Controller 1 pc. AC Cord 1 pc. RF Cable 1 pc. Ferrite Core (SD430BL Only)

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.
Section 1 presents you with technical know how for actual servicing and general information of features and controls, enabling you to become familiar with each function.
Section 2 presents to you mechanical and electrical adjustment information as well disassembly and replacement procedures.
In the case of very common information relating to other models like mechanical adjustments, please refer to the appropriate service manual.
Section 3 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function etc. ...
Section 4 contains exploded views and parts list.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

Note : The Model No. is indicated on the Schematic Diagram and Circuit Board Diagram as follows.

Model No.	NV-SD430EG	NV-SD430B	NV-SD430BL
Indication Mark	(A)	(B)	(C)

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Caution for AC Mains Lead

For your safety please read the following text carefully
This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5 amp fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS 1362.
Check for the ASTA mark or the BSI mark on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

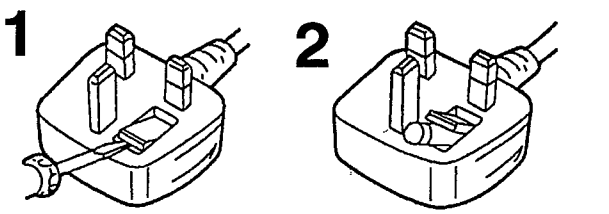
Under no circumstance should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol ⏚.

How to replace the Fuse

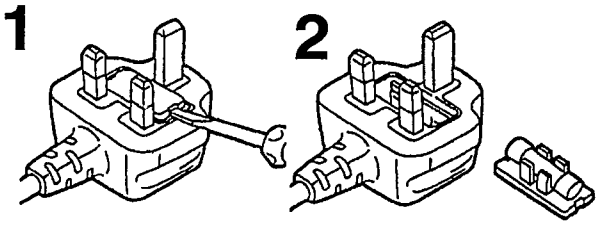
- There are two types of the AC Mains Lead assembly: **A** and **B** as shown below.

1 Open the fuse compartment with a screwdriver.
2 Replace the fuse and fuse cover.

TYPE A



TYPE B



SECTION 1
GENERAL DESCRIPTIONS

1-1. SERVICE INFORMATION

1-1-1. CHECKING OF MAIN C.B.A.

When servicing the MAIN C.B.A., take out the MAIN C.B.A. and mechanism from the frame and turn over, and then connect Extension Cable (VFK2744) between the POWER C.B.A. connector (P1103) and the MAIN C.B.A. connector (P1001) as shown in Fig. S1.

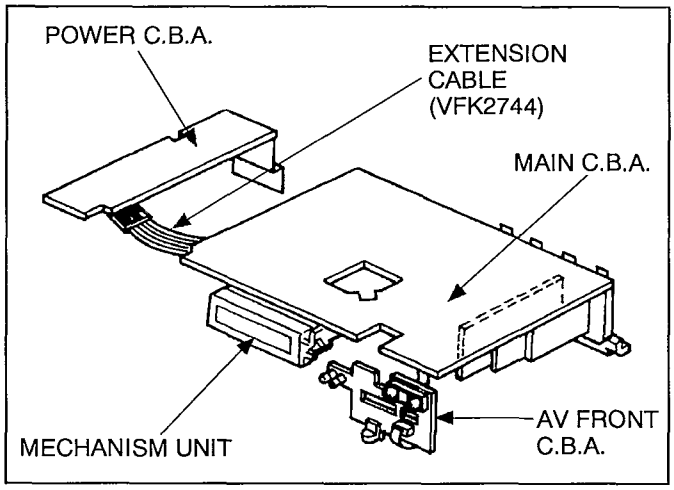


Fig. S1

1-1-2. CYLINDER UNIT REPLACEMENT

A. CYLINDER UNIT REPLACEMENT

Remove the 3 Screws (A) of the CYLINDER UNIT with a magnetized screw driver.

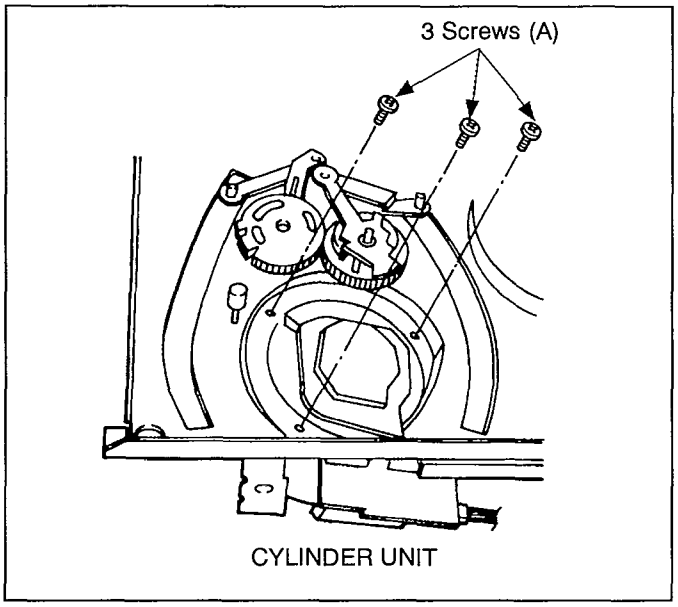


Fig. S2

B. UPPER CYLINDER DISASSEMBLY

1. Remove 2 screws (A).
2. Remove the Cylinder Stator Unit.
3. Remove 2 screws (B).
4. Remove the Cylinder Rotor Unit.
5. Loose hex screw (C) and remove the Cylinder Retainer. (Use Hex. key Wrench 1.5mm)
6. Remove the Upper Cylinder .

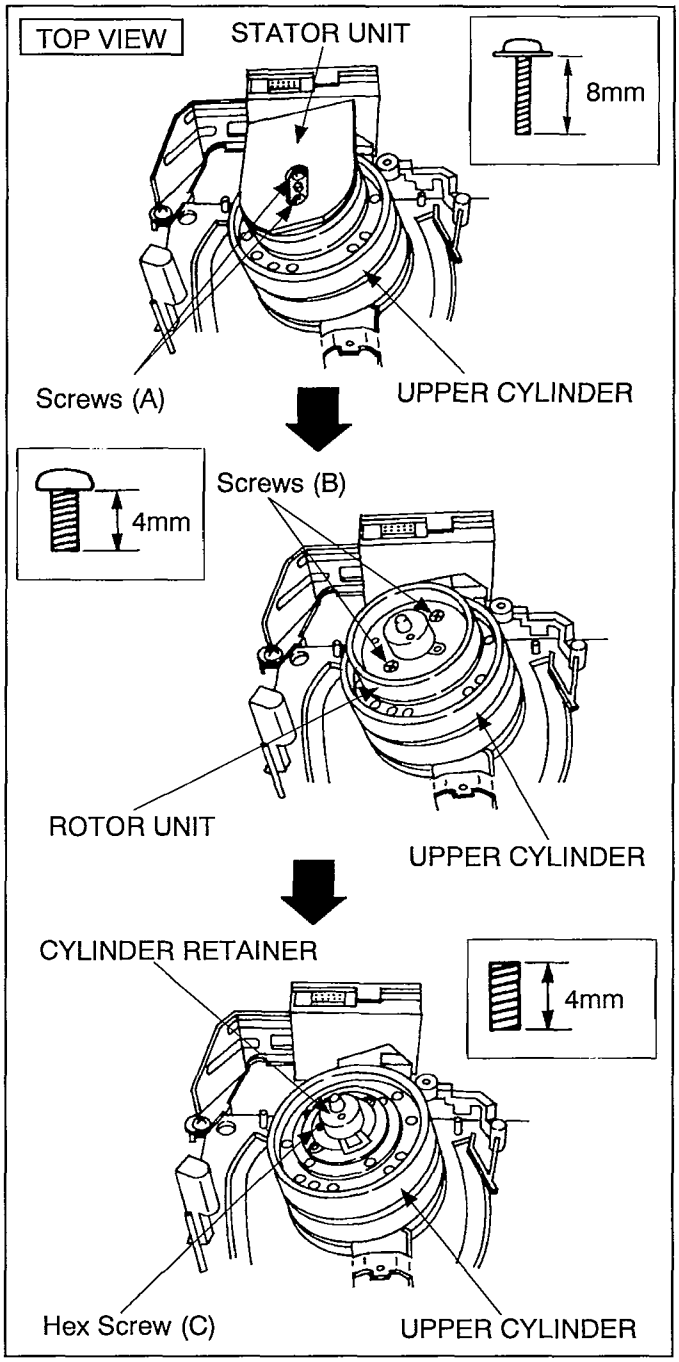


Fig.S3

C. UPPER CYLINDER ASSEMBLY

When reassembling, perform the steps in the reverse order.

1) Install the Cylinder Retainer so that the 2 holes on top of the Cylinder Retainer are at right angles with the Head Amp C.B.A..
2) Tighten the hex screw (C) while pressing down on top of the Cylinder Retainer. (Use Hex. key Wrench 1.5mm)

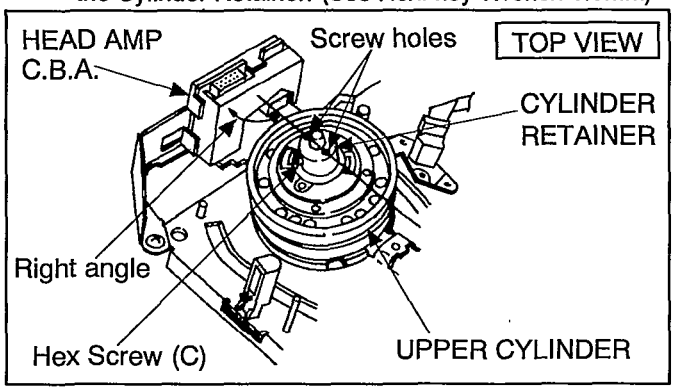


Fig.S4

3) Install the Cylinder Rotor Unit so that the inner hole of the Cylinder Rotor Unit fits to the small projection (D) on top of the Upper Cylinder.
4) Tighten 2 screws (B).

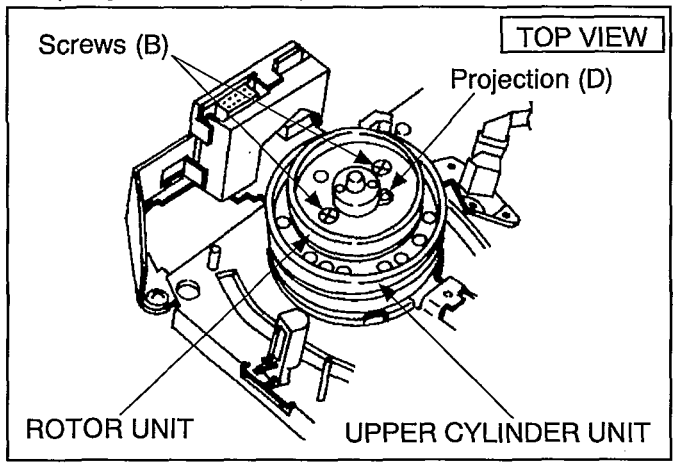


Fig.S5

5) Install the Cylinder Stator Unit so that the rear side of the Cylinder Stator C.B.A. is parallel with the Head Amp C.B.A..
6) Tighten 2 screws (A).

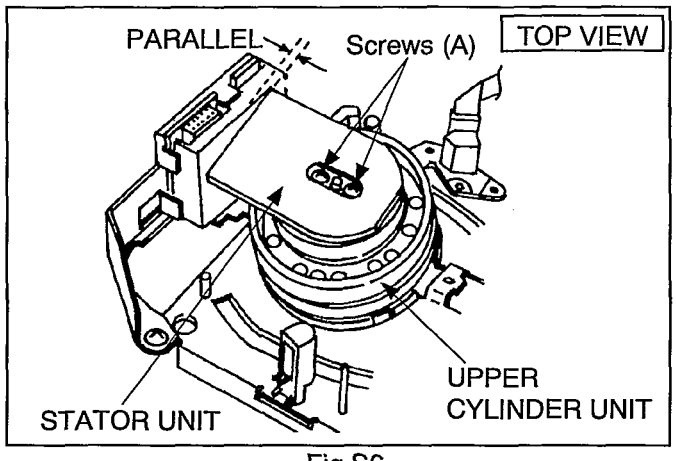


Fig.S6

7) Confirm the PG SHIFTER ADJUSTMENT with the alignment tape (PAL: VFJ8125H3F) and adjust it if necessary.

1-2. SELF-TEST & SERVICE INFORMATION DISPLAY

Refer to the Service Manual for Z Mechanism Chassis.
(Order No.: VRD9802005C2)

1-3. CAUTION DURING AUTO SETUP

PROCEDURE

Setting a VCR channel on your TV allows you to view the video picture on your TV in the same way that you watch TV broadcasts.
Once the **Country** setting is completed, the VCR automatically searches for TV stations and sets the clock.

1. Connect the RF Cable.
2. Connect the AC Mains Lead.
3. Turn on the TV and VCR.
4. Keep **MENU** pressed for 5 seconds or more.
   - Hold down the button until "Ch" appears in the VCR display.
5. Set the TV to an unused position which you wish to use for your video playback.
   - Tune the TV until the test pattern appears on the screen. Consult the instruction manual of your TV to find out how to tune it.
   - The initial setting of the RF output channel is 36 ch.
6. Press **OK** to exit the Test Pattern screen.
   The **Country** setting screen appears.
7. Select the desired country by using **PLAY (UP)** key and **STOP (DOWN)** key, and press the **OK**.
   Auto Setup (auto tuning and auto clock settings) then starts automatically.

   Auto Setup searches for TV stations from VHF minimum to UHF maximum and memorizes every tuned program position. Other program positions are skipped.
   Auto Setup takes five or more minutes to complete its search.
   Do not touch the VCR during Auto Setup.
   Auto Setup will stop halfway, if the VCR is operated or the aerial lead and/or the mains lead are disconnected.
   In case the VCR stopped during Auto Setup, the VCR have to be reset and restarted. See the following item 2.

NOTE

1. If the VCR is turned on with the antenna not connected, all channels are skipped. Therefore, firmly connect the antenna and then turn the VCR off and on again to execute Auto Setup.
2. **When Auto Setup is canceled halfway, Auto Setup is not executed even if the VCR is turned off and then turned on again.**
   In this case, Auto Setup have to be restarted by the following procedure.
   (1) Press **Menu** and select **Tuning** by using **PLAY (UP)** key and **STOP (DOWN)** key.
   (2) Select **Auto-setup Restart** by using **PLAY (UP)** key and **STOP (DOWN)** key, and press **OK**.
   (3) Press **OK** again.
3. If you turn the VCR off during Auto Setup, Auto Setup will stop halfway.
   The VCR should be reset and restarted by the item 2 in order to execute Auto Setup.
4. If the VCR starts playback during Auto Setup, Auto Setup will stop halfway.
   The VCR should be reset and restarted by the item 2 in order to execute Auto Setup.

5. To cancel Auto Setup Mid-operation, press POWER during Auto Setup (The VCR is turned off).
6. When the VCR is moved to the other area or country, TV broadcasts should be stored again.

1-4. REMOVAL OF CASSETTE TAPE

There are 2 ways to remove a cassette tape.

1. Removal of compulsory loading.
   1) Press FF and EJECT buttons simultaneously for 3 seconds and set the Service Mode 7.
   2) Press STOP button in order to unload the mechanism. (Pay an attention of tape slack)
      Service Mode Indication:
      7 ※ ※ ※ ※ (STOP)→ 7 00 ※ ※ (EJECT)

2. Removal of manual operation of Main cam gear.
   1) Disconnect the AC power cord and remove Top Panel.
   2) Rotate Main cam gear to the clockwise and unload the mechanism (Tape is remaining).

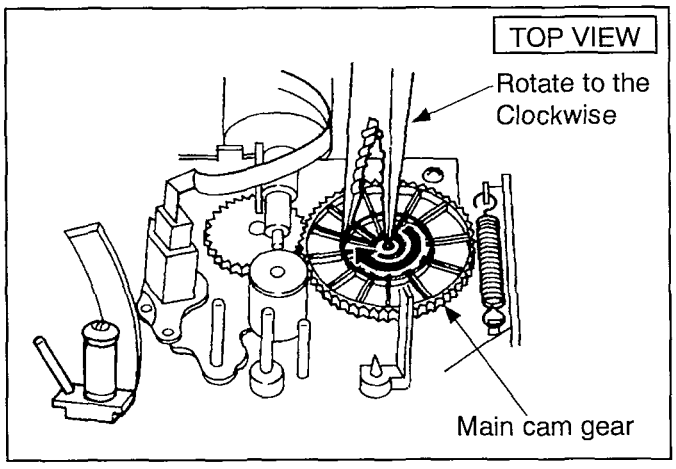


Fig.S7

3. Rotate the Pole of Capstan motor to the clockwise the from the bottom in order to remove the tape slack.

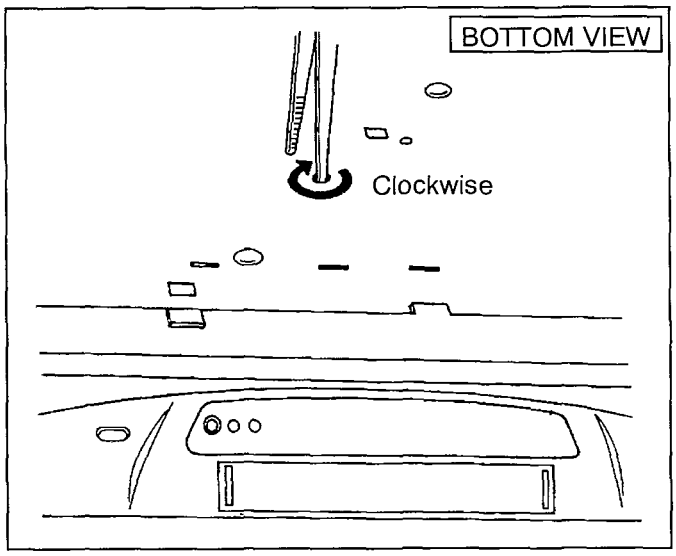


Fig.S8

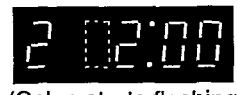
4. Rotate Main cam gear to the clockwise in order to eject the cassette tape.

1-5. SERVICE MODE

The service mode is used for the factory and service purpose only. The following service screen will be appeared on the monitor when the VCR will be set to the service mode.
The procedure has to be operated by the following method.
This service screen will help service personnels to set model code and option code, or to confirm the model condition as follows.
The model code and option code are used to make dependency in different models and to distinguish between different features.

	SD430EG	SD430B	SD430BL
Model code No.	65	73	77
Option code No.	8	32	32

PROCEDURE

Procedure of service mode	DISPLAY
1. Set service mode 2 by pressing "FF" key and "EJECT" key simultaneously for 3 seconds and then press the same buttons 2 times.	
2. Press "EJECT" key on VCR more than 3 seconds. The digit of minute is put out light.	
3. Press "Channel up" key on VCR 2 times. " 2 " is indicated in the digit of minute.	
4. Press "POWER" key on VCR. Service screen will be appeared.	 (Colon starts flashing)
5. Press "POWER" key on VCR in order to disappear service screen.	

Service Screen

Service — Panasonic

		Version	
OSD	:	VCCZ1.35	0
MAIN	:	V1CJ0.34	0
Pos for time ref.	:	NONE	
Last error code	:	00	
Model code	:	65 (20)	
Option code	:	8 (89)	
Clock adjust	:	+ 0	
VPS/PDC default	:	ON (depend)	

↑ ↓ : select ← : back

NOTE : (20) in model code and (89) in option code is displayed in hexadecimal.
When setting the codes, change the decimal codes displayed at the left side in Model code and Option code.

1-6. CHANNEL MEMORY IC INITIALIZATION & TIMER REFERENCE CLOCK SETTING

When replacing the memory IC IC7704 on OSD C.B.A. and/or X6001 on main C.B.A., the following initialization and/or setting have to be done.

In case replacing IC7704, Channel memory IC initialization and Timer reference clock setting should be executed.
When replacing X6001, Timer reference clock setting has to be executed.

It does not need to perform the any setting when the microprocessor of system control (IC6001) is replaced.

Note:

Since the "VPS/PDC default" are future expansion, do not change the initial setting.
If anybody changes the "VPS/PDC default" accidentally, set the code mentioned "(default)" as indicated in service screen by using PLAY (UP) key or STOP (DOWN) key on the Remote Controller Unit.

1-6-1. PROCEDURE OF CHANNEL MEMORY INITIALIZATION

In service mode 2 (service screen), press REC key and then Model code and Option code have to be set by using 10-key on the Remote Controller Unit as code list.

Note:

1) It should be performed before tuning.
2) Meaning of "INITIALIZATION" is to make dependency in different models and to distinguish between different features.

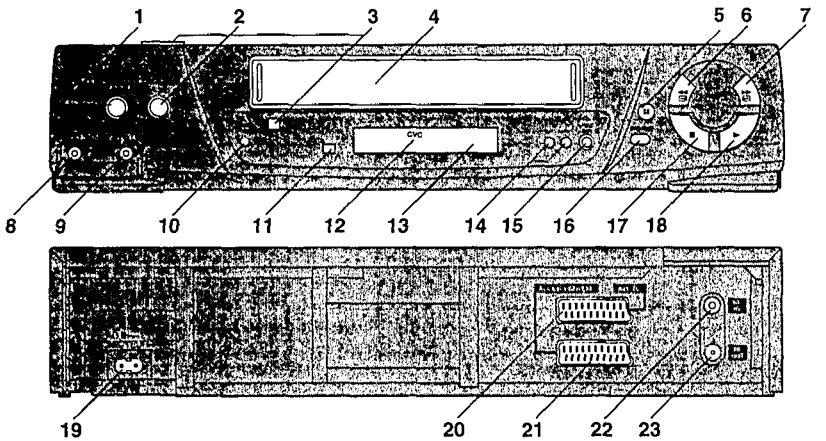
1-6-2. PROCEDURE OF TIMER REFERENCE CLOCK SETTING

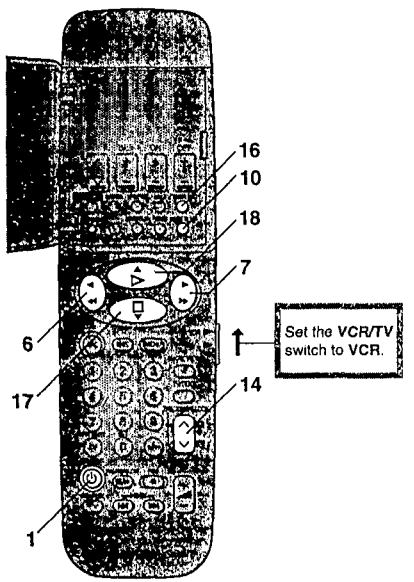
In service mode 2 (service screen), press REC key and then "Clock adjust" has to be set by using PLAY (UP) key or STOP (DOWN) key on the Remote Controller Unit as follows.

Clock adjust : + 0

Controls and Connection Sockets

This section gives a detailed explanation of the function of each button, switch and connection socket.





FRONT

1 **POWER ⏻/I (⏻)**
Press to switch the VCR from on to standby mode or vice versa. In standby mode, the unit is still connected to the mains.
- When using the remote controller, be sure that the **VCR/TV** switch is set to **VCR**.
- To turn on the VCR when the **Power save** setting at the On Screen Display is set to **ON**, keep **POWER ⏻/I** pressed **on the main unit.**

2 **EJECT**
To eject a video cassette.
- When the VCR is switched off, the inserted cassette can be ejected simply by pressing **EJECT**. The VCR will eject the cassette and automatically turn itself off again.
This function will not operate if the **Power save** setting is **ON**.

3 **Infra-red Signal Transmitter**
Signals are sent from here to the receiver when using this VCR to control one of the satellite receivers found on the attached list of compatible satellite receivers.
For assured satellite receiver control, Satellite Settings must be performed at the installation stage.

4 **Cassette Compartment**
Insert a video cassette here.

5 **❚❚ (PAUSE/STILL)**
During playback: Still picture.
During recording: To interrupt recording.

6 **◀◀ (REWIND)**
In the stop mode: To rewind the tape.
In the playback mode: To search backward for a scene.
In the rewind mode: To view the video.
"◁◁" is lit during rewind.

7 **▶▶ (FAST FORWARD)**
In the stop mode: To fast forward the tape.
In the playback mode: To search forward for a scene.
In the fast forward mode: To view the video.
"▷▷" is lit during fast forward.

8 **VIDEO IN (AV3)**
To connect the video cable to a movie camera or to another VCR.

9 **AUDIO IN (AV3)**
To connect the audio cable to a movie camera or to another VCR.

10 **DIRECT TV REC**
For the Direct TV REC function.

11 **Infra-red Remote Control Receiver Window**

12 **CVC (Crystal View Control) Indicator**
Indicates that the CVC function is active. This indicator is normally lit when the power is on.

13 **Display**

14 **∨∧**
To select the required programme position (TV station) of the VCR.
These buttons can also be used for tracking adjustment and vertical locking adjustment.See page 21.
Set the **VCR/TV** switch to **VCR** to use **∨∧** on the remote controller.

15 **REC/OTR**
To start a recording.
For One-Touch Recording (OTR).

16 **TIMER REC**
To turn the timer recording function on and off.
◷ is lit when the function is on (standby mode).
Once the operating timer recording function is set, normal VCR operation is not possible unless this button is set to off.

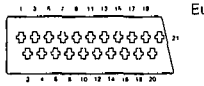
17 **□, ■ (STOP)**
To stop any playback or recording.

18 **▷, ▶ (PLAY)**
To start playback. "▷" is lit during playback.
For the repeat playback function.

REAR

19 **AC IN~**
To connect to the main power supply.

20 **AV1 (TV)**
This 21-pin scart terminal carries input and output signals for both picture and sound. TV sets equipped with a similar socket can be connected here.
The scart terminal is also called Peritel
Euro Connector
Euro AV



1	AUDIO OUTPUT	13	RED GROUND
2	AUDIO INPUT	14	BLANKING GROUND
3	AUDIO OUTPUT	15	RED
4	AUDIO GROUND	16	BLANKING
5	BLUE GROUND	17	VIDEO OUTPUT GROUND
6	AUDIO INPUT		
7	BLUE		
8	SWITCHING VOLTAGE	18	VIDEO INTPUT GROUND
9	GREEN GROUND		
10	CONTROL SIGNAL	19	VIDEO OUTPUT
11	GREEN	20	VIDEO INPUT
12	No connection	21	GROUND

Caution: RGB reservation for only E/E operation when connecting the Pay TV decoder.

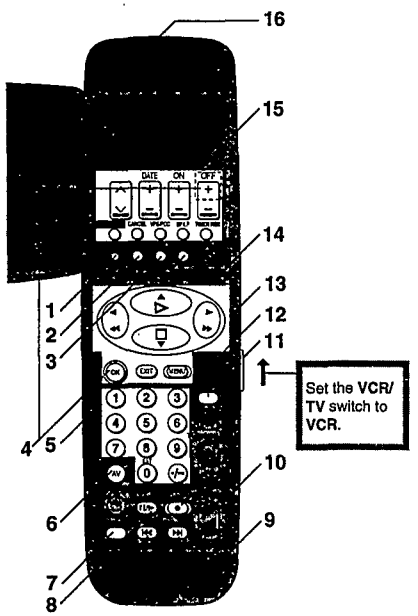
21 **AV2 (DECODER/EXT)**
To connect to a decoder, another VCR or a satellete receiver.

22 **RF IN**
To connect to the external aerial.

23 **RF OUT**
To connect to the aerial terminal on a TV set.

Infra-red Remote Controller

VCR OPERATION



1 **AV LINK**
To select the VCR mode or TV mode for AV LINK.

2 This button is not used to operate this VCR.

3 **OSD/DISPLAY**
When this button is pressed for the first time, it makes the On Screen Display appear on the TV screen. From the second time, it changes the VCR display indication as follows:

→ Clock ⟶ Counter ⟶ Remaining Tape Time →

4 **OFF+, OK**
For the Child Lock function.
See the description of page 8.

5 **Numeric Buttons**
Be sure that the **VCR/TV** switch is set to **VCR**.
- To select the programme positions (1-99) of the VCR.

9: (9)

19: (-/--) → (1) → (9)

- To select the satellite programme positions (SAT1-SAT99).

SAT 9: (SAT 0) → (SAT 0) → (9)

SAT 19: (SAT 0) → (1) → (9)

- To enter a ShowView number.

6 **INPUT SELECT**
To select the A1, A2 or A3 external recording source.
- Be sure that the **VCR/TV** switch is set to **VCR**.

7 **SEARCH**
To search for a recorded programme using the Intro-Jet Scan and the Programme List Search functions after timer recording.

8 **PAUSE/SLOW**
During playback:
- When pressed once: Still picture. "▯▯" is lit.
- When pressed for 2 seconds or more: Slow playback. "▯▷" is lit.

During recording: To pause recording.

9 **INDEX**
For the Index Search function.

10 **REC**
To start a recording.

11 **VCR/TV switch**
VCR: To select the VCR operation mode.
TV: To select the TV operation mode.

12 **SHOW VIEW**
For the ShowView programming.
- Be sure that the **VCR/TV** switch is set to **VCR**.

13 **On Screen Display Menu Operation Buttons**
The buttons with the green characters are used for the on screen display menu operation.

MENU: To make the On Screen Display **Main menu** appear on the TV screen.
EXIT: To exit the menu.
OK: To confirm the selection, or to store.
▲▼◄►: To make selections from the On Screen Display. (When the On Screen Display is displayed.)
These buttons can also be used for the playback, stop, rewind and fast forward mode. (When the On Screen Display is not displayed.)

14 **RESET**
To reset the tape counter (elapsed time) to "0:00.00".
- The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.

15 **Timer Recording Operation Buttons**
∨ ∧, DATE, ON, OFF:
To programme a timer recording.

PROG./CHECK: To programme a timer recording. To check and modify timer programmes.
- Be sure that the **VCR/TV** switch is set to **VCR**.

CANCEL: To cancel timer programmes.

VPS/PDC: To set the VPS/PDC recording option or cancel the option.

SP/LP: To select the tape speed desired for recording.
SP gives the best picture quality.
LP gives the longest recording time.

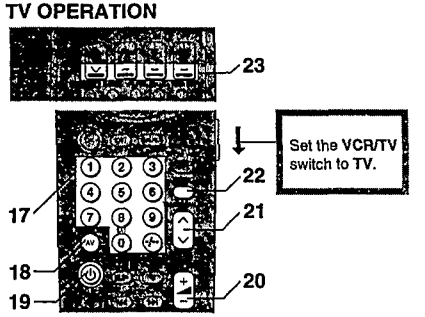
TIMER REC:
To turn the timer recording function on and off. ⏲ is lit when the function is on (standby mode). Once the operating timer recording function is set, normal VCR operation is not possible unless this button is set to off.

16 **Infra-red Transmitter**

Child lock function

Holding down **OFF+** and **OK** until "▷◁" and "hold" appear in the VCR display will deactivate all buttons. Any external commands will not be processed by the VCR.
To cancel this function, repeat the same procedure until "▷◁" and "hold" disappear.
- Be sure that the **VCR/TV** switch is set to **VCR**.
- If a button is pressed while the Child lock function is on, "▷◁" and "hold" appears in the VCR display.
- When the power is disconnected, the Child lock function is automatically cancelled after the roughly 60 minutes of backup time.

TV OPERATION



17 **Numeric Buttons**
To select programme positions (1-99) of the TV.
To set the remote controller for operation of the TV.
These buttons are also used to select the Teletext screen.
- Be sure that the **VCR/TV** switch is set to **TV**.

18 **AV**
To switch between TV channels and external input channels. See pages 11.
- Be sure that the **VCR/TV** switch is set to **TV**.

19 POWER ⏻
Press to switch the TV from on to standby mode or vice versa. In standby mode, the TV is still connected to the mains.
- Be sure that the **VCR/TV** switch is set to **TV**.
- With some TV models, it may only be possible to switch the TV to the standby mode using this button. In this case, use the numeric buttons, **AV** or ∨ ∧ to switch the TV on.

To set the remote controller for operation of the TV.

20
To adjust the volume of the TV.

21 ∨ ∧, TEXT TEXT
To select the required programme position (TV station) of the TV.
These buttons are also used to select the Teletext screen.
- Be sure that the **VCR/TV** switch is set to **TV**.

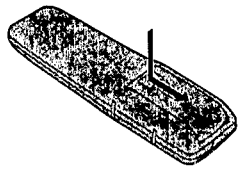
22 TV/TEXT
To switch between normal TV mode and Teletext mode.
- Be sure that the **VCR/TV** switch is set to **TV**.

23 ∨ (red), DATE–(green), ON–(yellow), OFF–(blue)
These buttons are used in Teletext mode. Change the screen according to each colour display (red, green, yellow, blue).
- Be sure that the **VCR/TV** switch is set to **TV**.

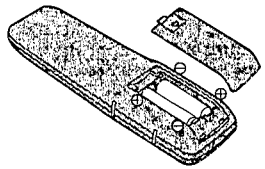
Remote Controller Setup

Installing the Batteries

1 To remove the cover, slide it in the direction of the arrow while pressing down.



2 Load the batteries with their polarity (⊕ and ⊖) aligned correctly.

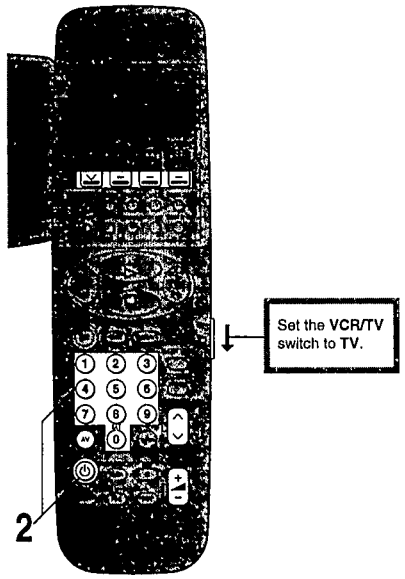


3 Slide the cover back on.

Power Source for the Remote Controller
The remote controller is powered by 2 AA, UM3 or R6 size batteries. The life of the batteries is about one year, although this depends on the frequency of use.

Precautions for Battery Replacement
- Load the new batteries with their polarity (⊕ and ⊖) aligned correctly.
- Do not apply heat to the batteries, or an internal short-circuit may occur.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool, dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together, and never use an alkaline battery with a manganese battery.

Setting the Remote Controller for Operating of your TV



This setting procedure allows you to operate the TVs of some manufacturers using the supplied remote control transmitter.

Preparation
Set the **VCR/TV** switch to **TV**.

Operations

1 Find the manufacturer number of your TV while referring to the following table.

2 While holding down **POWER ⏻**, use the **numeric buttons** to enter the manufacturer number. This completes the settings for the TV manufacturer.
- Be sure to enter the number in two digits.
  Example: 1 → 01

3 To confirm that the correct settings were made, check whether the TV can be operated properly.
- When a manufacturer has multiple numbers in the following table, try entering other numbers if the TV operations cannot be performed properly, and then select the optimal number.

Notes:
- If you are using a Panasonic TV, this setting has already been made, and so you do not need to perform the above setting procedure. However, this remote controller may not work with some Panasonic TVs.
- Some TV models cannot be operated using this remote controller.

Panasonic	01-04
AIWA	35
AKAI	30
BLAUPUNKT	09
BRANDT	10, 15
BUSH	05, 06
CURTIS	31
DESMET	05, 31, 33
DUAL	05, 06
ELEMIS	31
FERGUSON	10
GOLDSTAR	31
GOODMANS	05, 06
GRUNDIG	09
HITACHI	22, 23, 31
INNO HIT	34
IRRADIO	30
ITT	25
JVC	17
LOEWE	07
METZ	28
MITSUBISHI	19, 20
MIVAR	24
NEC	36
NOKIA	25-27
NORDMENDE	10
ORION	37
PHILIPS	05, 06
PHONOLA	31, 33
PIONEER	38
PYE	05, 06
RADIOLA	05, 06
SABA	10
SALORA	26
SAMSUNG	31, 32
SANSUI	05, 31, 33
SANYO	21
SBR	06
SCHNEIDER	05, 06, 30
SELECO	06, 25
SHARP	18
SIEMENS	09, 29

SINUDYNE	05, 06, 33
SONY	08
TELEFUNKEN	10-14
THOMSON	10, 15
TOSHIBA	16
WHITE WESTINGHOUSE	05, 06

Switching Between External Input Channels of Your TV

Panasonic TVs have three different methods for switching between the external input channels.

- Be sure that the **VCR/TV** switch is set to **TV**.

Press **AV** to switch to the external input channels.
A1, A2 or A3⟷TV channels

1 Press **AV**.
- Colour bars for selecting the external input channel appear on one corner of the TV screen.

2 Select the desired external input channel by pressing the corresponding colour button ∨ **(red), DATE– (green), ON– (yellow)** or **OFF– (blue)** on the remote controller, following the instructions on the TV screen.

1 Press **AV**.
- The previously-selected external input channel screen appears on the TV, and a screen for selecting another VCR input channel is also displayed.

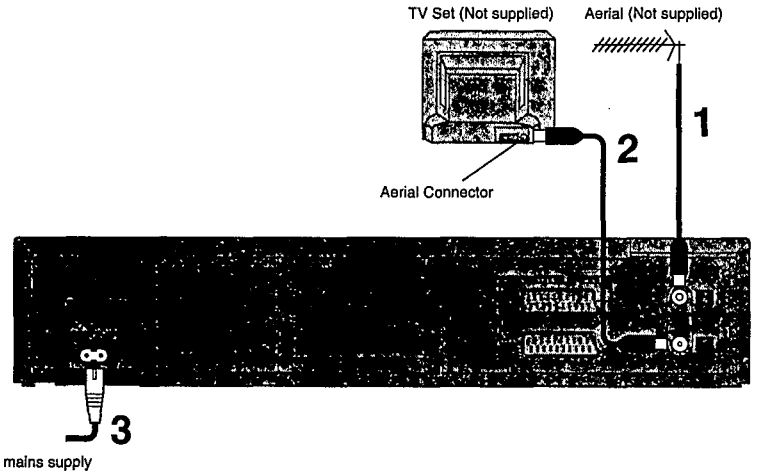
2 Press ∨ ∧ (📺 📺) at the same time to select the desired channel.
- Each time ∨ ∧ (📺 📺) is pressed simultaneously, the channel selection scrolls up.
- The screen for selecting the channel will turn off after a few seconds.

Connections and Settings Without Using a 21-Pin Scart Cable

1 Connections

The VCR sends signals to the TV via an RF coaxial cable (supplied).

Make the connections shown in the figure below.
When connecting to a satellite receiver, see page 33 or 34.

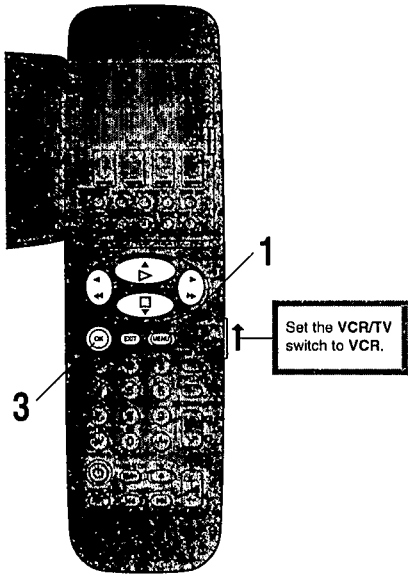


2 Settings

Setting a VCR channel on your TV allows you to view the video picture on your TV in the same way that you watch TV broadcasts.
Once the **Country** setting is completed, the VCR automatically searches for TV stations and sets the clock. (This is known as Auto Setup.)

Preparation

Turn on the TV and VCR.



Operations

1 Keep **MENU** pressed for 5 seconds or more.
- Hold down the button until "Ch" appears in the VCR display.

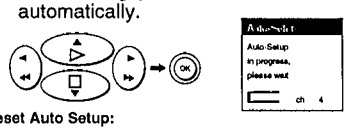
2 Set the TV to an unused position which you wish to use for your video playback.
- Tune the TV until the test pattern appears on the screen. Consult the instruction manual of your TV to find out how to tune it.
- The initial setting of the RF output channel is 36ch.

On Screen Display

(Test Pattern)

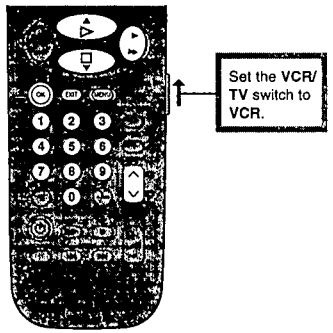
3 Press **OK** to exit the Test Pattern screen. The **Country** setting screen appears.

4 Select the desired country. Auto Setup (auto tuning and auto clock settings) then starts automatically.



To Reset Auto Setup:
Press **EXIT**, then disconnect and connect the power source. The **Country** setting screen will appear on the screen. Repeat the operations from step 3.

Notes:
- The Auto setup searches for TV stations from VHF minimum to UHF maximum and stores the data for every programme position. The other programme positions are skipped.
- The Auto setup takes five minutes or more to search for the TV stations and set the clock.
- If VCR is not set correctly by Auto setup, see **Various Settings** on pages 38-41.
- Auto clock setting will not work correctly if teletext information is not available. If the clock setting screen appears after auto tuning has been completed, set the clock manually.
  Refer to steps 3-5 on page 41.



To Change the RF Output Channel (using the remote controller):

In some rare cases after Auto Setup, interference may be visible on the picture. To avoid interference, you can manually adjust the RF output channel a few steps up or down from the current setting.

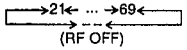
Operations

1 Turn on the TV and VCR.

2 Keep **MENU** pressed for 5 seconds or more.
- Hold down the button until "Ch" appears in the VCR display.

3 Enter the desired channel number (21-69) by using the **numeric buttons** or ∨ ∧ of the remote controller.
- Be sure that the **VCR/TV** switch is set to **VCR**.
- Set the RF output channel of the VCR to "– –" (RF OFF) when the VCR is connected to the TV via the 21-pin scart cable.

Press the **"0" numeric button** or ∨ ∧ to display "– –".



4 Press **OK** to finish the setting mode.
- Retune your TV to the new channel for the VCR.
- After the Country setting is set, the **Country** setting screen will not be displayed even if the RF output channel is changed and **OK** is pressed.

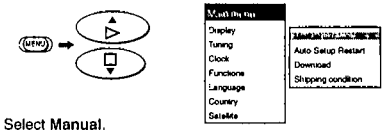
To Check the Settings for Auto Setup:

Use the following procedure to check that the settings for Auto Setup are set correctly.

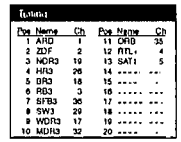
Operations

1 Press **MENU** and select **Tuning**.

On Screen Display



2 Select **Manual**.



3 Looking at the On Screen Display, check that the settings for Auto Setup are set correctly.
If the desired TV stations have all been displayed and are set in the correct order, Auto Setup is completed.
If the TV stations have not been correctly entered and set, perform the manual setting procedure on page 38.
Press **EXIT** to exit the On Screen Display.

Note:
Manual tuning is required when there is a ∗ mark at the beginning of the station name display, even if the station name is displayed. See page 39.

Connections and Settings Using a 21-Pin Scart Cable

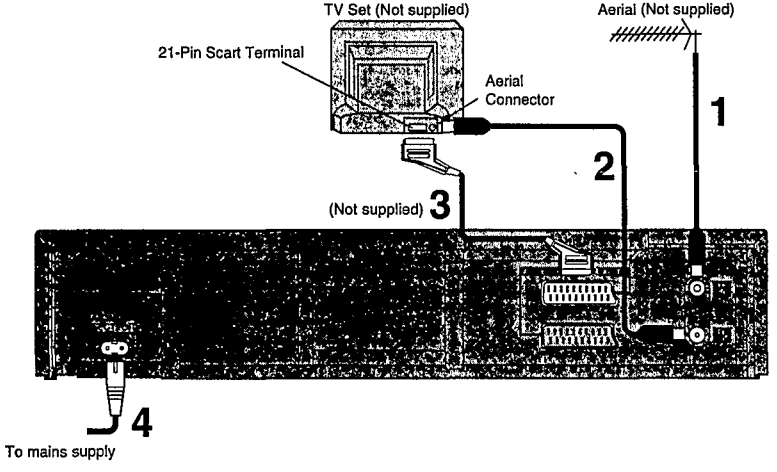
1 Connections

The VCR sends signals to the TV via a 21-pin scart cable (sold separately).

When connecting the VCR to a TV with the "Q Link", "DATA LOGIC", "NEXTVIEWLINK", "Easy Link", "Megalogic", "SMARTLINK", or other logo, the fully-wired 21-pin scart cable should be used in Step 3. If this cable is not used, the "Preset Download" and "Direct TV REC" functions will not operate. (See pages 19 and 24.)

Make the connections shown in the figure below.
When connecting to a satellite receiver, see page 33 or 34.

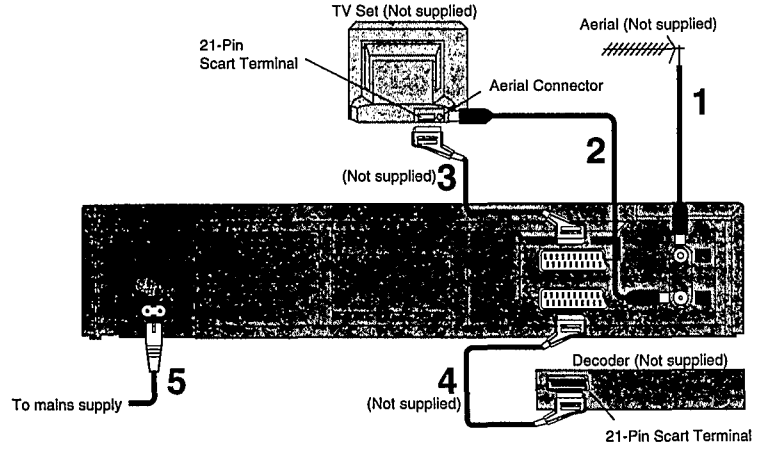
> After making these connections, one of two settings methods is performed.
> - If the VCR is connected to a TV with the "Q Link", "DATA LOGIC", "NEXTVIEWLINK", "Easy Link", "Megalogic", "SMARTLINK", or other logo using a fully-wired 21-pin scart cable, then go to page 19.
> - For other connections, go to page 17.



Note:
Set the RF output channel of the VCR to "– –" (RF OFF) when the VCR is connected to the TV via the 21-pin scart cable. See page 14.

Connection to a Decoder

In addition to the connections described on the previous page, connect the AV2 socket to the decoder using a 21-pin scart cable.



Notes:
- If the TV set is provided with an RGB-compatible connector, connect the 21-pin AV cable from the VCR to this connector. Use the fully-wired 21-pin scart cable for connecting the TV set and VCR and for connecting the VCR and decoder.
- Set the RF output channel of the VCR to "– –" (RF OFF) when the VCR is connected to the TV via the 21-pin scart cable. See the bottom section on page 14.
- **AV2** must first be set to **DECODER** when the decoder is connected to the AV2 socket. (See page 44.)

AV LINK
With this button, the connected colour TV set can be switched from TV mode to VCR mode (and vice versa) when it is connected by means of 21-pin scart cable. This makes a variety of functions possible, such as simultaneous recording and viewing when a Pay TV decoder or a satellite receiver has been connected.

VCR mode (VCR indicator lights up):
To enjoy sound and pictures from the VCR.
- When **MENU** is pressed and the OSD (On Screen Display) screen is displayed, the unit also automatically switches to VCR mode.
  However, if the unit is originally in TV mode, the VCR indicator is not displayed.
- The unit also automatically switches to VCR mode when playback is started. However, the unit cannot be returned to TV mode during playback.

TV mode (VCR indicator goes off):
To watch another programme on the TV while recording on the VCR.
- Select the programme to be watched using the TV set's tuner.
- The sound and pictures of a different channel are received by the VCR.

	VCR	TV set
Power On	VCR mode ⇕ TV mode	AV input selected ⇕ Input from TV set's tuner*
Power Off	—	Input from TV set's tuner

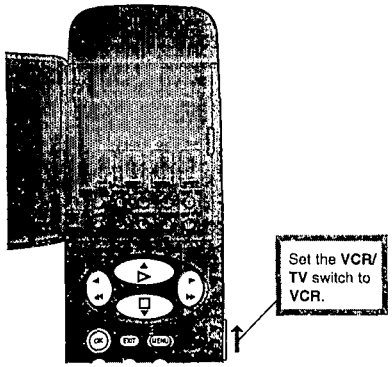
*When the VCR is set to the TV mode and the Pay TV channel is selected, the signals will still be scrambled even when Pay TV is selected by the TV set's tuner. In this case, either set the VCR to the VCR mode or switch the TV set's input signals to AV input.

Auto Setup

This setting is used when the VCR is not connected to a TV with the "Q Link", "DATA LOGIC", "NEXTVIEWLINK", "Easy Link", "Megalogic", "SMARTLINK", or other logo using a fully-wired 21-pin scart cable.
The VCR automatically searches for TV stations and sets the clock. (This is known as Auto Setup.)

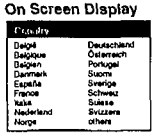
Preparation

Turn on the TV and VCR.

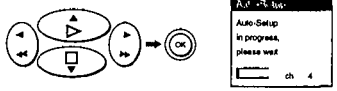


The **Country** setting screen appears.
Select the desired country.

On Screen Display



- Auto Setup (Auto tuning and Auto clock setting) starts automatically.



To Reset Auto Setup:
Press EXIT, then disconnect and connect the power source.
The **Country** setting screen will appear on the screen.

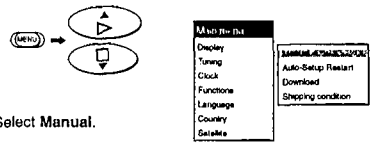
Notes:
- The Auto setup searches for TV stations from VHF minimum to UHF maximum and stores the data for every programme position. The other programme positions are skipped.
- The Auto setup takes five minutes or more to search for TV stations and set the clock.
- If VCR is not set correctly by Auto setup, see **Various Settings** on pages 38-41.
- Auto clock setting will not work correctly if teletext information is not available. If the clock setting screen appears after auto tuning has been completed, set the clock manually.
  Refer to steps 3-5 on page 41.

To Check the Settings for Auto Setup:

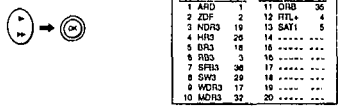
Use the following procedure to check that the settings for Auto Setup have been correctly made.

Operations

1 Press **MENU** and select **Tuning**.



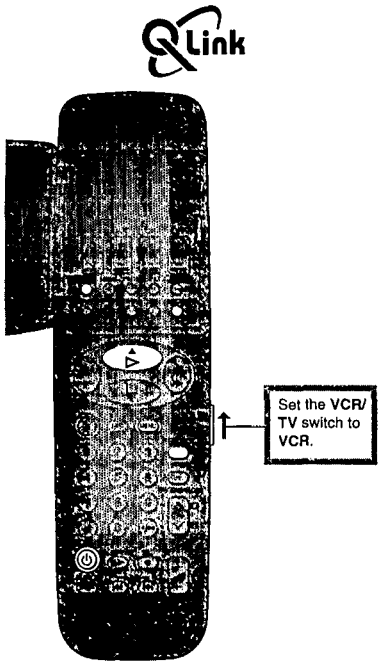
2 Select **Manual**.



3 Looking at the On Screen Display, check that the settings for Auto Setup are set correctly.
If the desired TV stations have all been displayed and are set in the correct order, Auto Setup is completed.
If the TV stations have not been correctly entered and set, perform the manual setting procedure on page 38.
Press **EXIT** to exit the On Screen Display.

Note:
Manual tuning is required when there is a * mark at the beginning of the station name display, even if the station name is displayed. See page 39.

The "Q Link" functions



When the VCR is connected to a TV with the "Q Link", "DATA LOGIC", "NEXTVIEWLINK", "Easy Link", "Megalogic", "SMARTLINK", or other logo using a fully-wired 21-pin scart cable, you can use the "Q Link" functions.

The following Q Link functions are available.

1 **Preset Download**
When the VCR is connected to the TV, the station list data will be copied from the TV to the VCR, and the TV channels will be preset on the VCR.
See page 19.

2 **Direct TV REC**
This function allows you to immediately record the program you are watching on the TV at the moment by simply pressing **DIRECT TV REC**.
See page 24.

3 **TV/VCR Auto Power On**
(This function is only available when the VCR is connected to a TV with the "Q Link" or "DATA LOGIC" logo.)
Even if the TV or VCR is in the standby mode, the TV and VCR will automatically turn on when one of the buttons [▷ **(PLAY)**, **SHOW VIEW**, **PROG./CHECK** or **MENU**] is pressed.
- When a tape with a broken erasure prevention tab is inserted into the VCR, the VCR starts up and automatically begins playback. The TV also turns on.

4 **VCR Auto Power Off**
(This function is only available when the VCR is connected to a TV with the "Q Link" or "DATA LOGIC" logo.)
Turning the TV off will also turn the VCR off.
However, this operation works only when the VCR has been set to Rewind or Stop mode, or there is no tape inside.
- If the Power Off command is received while the VCR is rewinding the tape, the VCR will not turn off until rewinding is completed.
- This operation does not work when settings are being mode. (Download, Auto Setup, Auto Clock Setting, Manual Search)

5 **TV On Screen Display Message**
This function is only available when the VCR is connected to a TV with the "Q Link" or "DATA LOGIC" logo.)
With this function, VCR messages appear on the TV screen even in the TV mode.

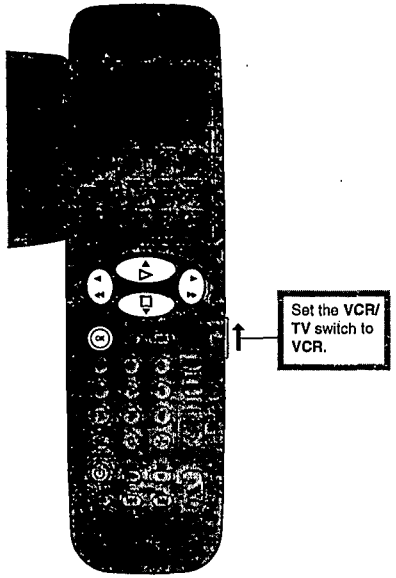
Message	Conditions when message appears
This programme has already started	Timer recording is starting

Note:
Depending on the TV, the message may not appear correctly.

Preset Download

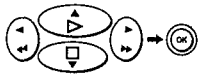
This setting is used when the VCR is connected to a TV with the "Q Link", "DATA LOGIC", "NEXTVIEWLINK", "Easy Link", "Megalogic", "SMARTLINK", or other logo using a fully-wired 21-pin scart cable.

When the VCR is connected to the TV, the station list data will be copied from the TV to the VCR, and the TV channels will be preset on the VCR.
This function is known as "Preset Download".

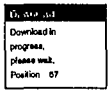


The **Country** setting screen appears when the VCR is turned on after being connected to the TV using the fully-wired 21-pin scart cable.
Select the desired country.

On Screen Display



If the VCR is connected to a TV with the "Q Link" or "DATA LOGIC" logo, then the Country setting screen does not appear and download begins immediately.



- When Downloading has finished, the lowest channel at which a broadcast can be tuned in is received.

Notes:
- Download will only work when the VCR is connected to a TV with the "Q Link", "DATA LOGIC", "NEXTVIEWLINK", "Easy Link" "Megalogic", "SMARTLINK", or other logo using a fully-wired 21-pin scart cable.
  When this condition is not met, Auto Setup will be executed. (See page 17.)
- When Preset Download (Download from TV) has been executed, do not perform Manual Tuning described hereafter on page 38. This is because when the tuning contents for the TV are changed, this information is downloaded to the VCR again, possibly erasing the independent contents input by Manual Tuning.

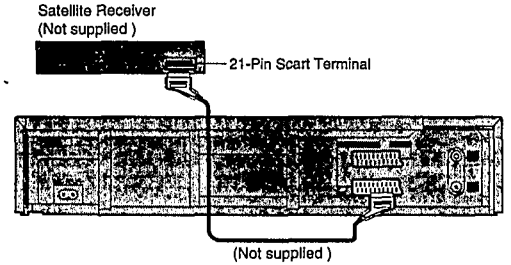
Satellite Receiver Control

Connection to a Satellite Receiver

- The satellite receiver control functions are activated when connection is made to one of the satellite receivers found on the attached list of compatible satellite receivers, provided that the settings from pages 35 to 37 have been performed.
  Also make absolutely sure that the satellite receiver is installed in a location as per the figure below.
  The satellite receiver can be connected in two ways - by either using a 21-pin scart cable or a RF coaxial cable.
- Also refer to the operating instructions for the satellite receiver.
- The unit may not operate properly if it has not been installed in a satisfactory position.
- See page 12 or 15 for the connecting to a TV.

Ⓐ By means of 21-pin Scart Cable

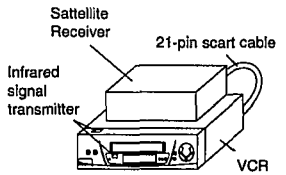
After making this connection, proceed with Satellite Setting on pages 36 and 37.



Notes:
- When a decoder is to be connected in addition to the satellite receiver, read the Operating Instructions accompanying the decoder.
- The AV LINK function may not work, depending on the type of satellite receiver.
- When the satellite receiver is connected to the AV2 socket, **AV2** must first be set to **EXT.** (See page 44.)

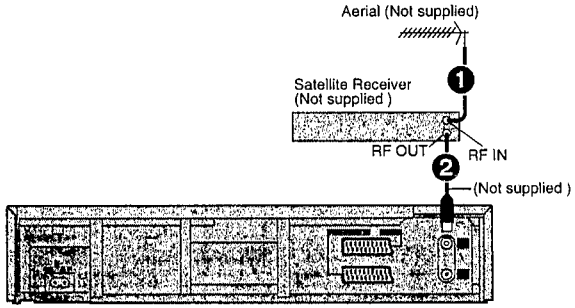
How to Install

We recommend that the satellite receiver be placed on top of the VCR, positioned so that the infrared signal transmitter is clearly accessivle.



Ⓑ By means of RF Coaxial Cable

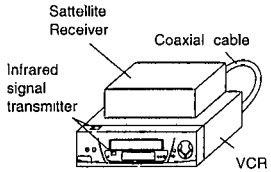
After making this connection, proceed with Satellite Tuning on page 35 and Satellite Setting on pages 36 and 37.



RF ouput channel of the satellite receiver should be adjusted away from channel 36, which is used by the VCR, e.g. re-adjust to channel 33.

How to Install

We recommend that the satellite receiver be placed on top of the VCR, positioned so that the infrared signal transmitter is clearly accessible.

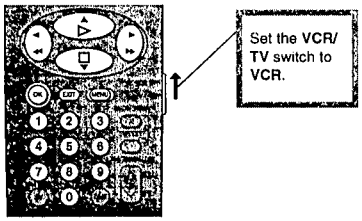


Satellite Tuning

When the RF connection of Ⓑ on the satellite receiver connection page has been performed, the following settings must be carried out in order to activate satellite control.
These settings are not necessary when the 21-pin cable Ⓐ has been used for the connection. (See page 33-34.)

Preparations

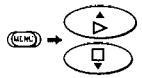
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.



Follow the operation guide on screen display.

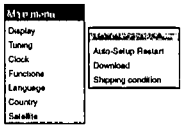
Operations

1 Press **MENU** and then select **Tuning**.

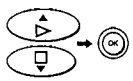


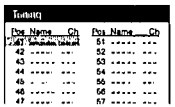
2 Select **Manual**.

On Screen Display

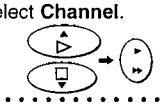


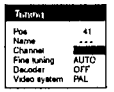
3 Select unoccupied programme position.





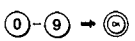
4 Select **Channel**.

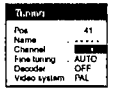




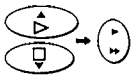
5 Enter the number of a channel on which satellete broadcasts can be viewd.

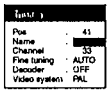
- Be sure that the **VCR/TV** switch is set to **VCR**.



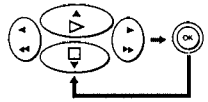


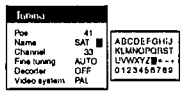
6 Select **Name**.





7 Enter "**SAT _ _**".





- "_ _" indicates two blank spaces. Enter the space to the right of "Z" on the keyboard.
- "SAT " is a special term; use it only when a satellite receiver is connected.
- If "SAT " is already displayed, this step is unnecessary.

8 Press **OK**, and then press **EXIT**.

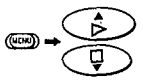
Note:
When Preset Download (Download from TV) has been performed, change the name of the channel for viewing the satellite broadcast on the TV to "SAT" instead of executing this page (refer to the operating instructions of the TV). If this step is taken, preset Download is performed again automatically, and the name of the VCR's SAT channel is also changed.

Satellite Setting

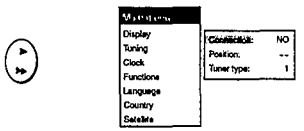
Proceed with the settings described below in order to activate the satellite receiver control functions.
These settings are supported only by the satellite receivers found on the attached list of compatible satellite receivers.

Operations

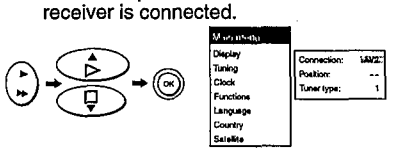
1 Press **MENU** and then select **Satellite.**



2 Select **Connection.** **On Screen Display**



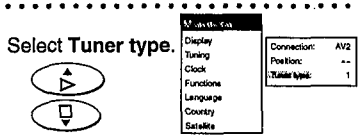
3 Select the position where the satellite receiver is connected.



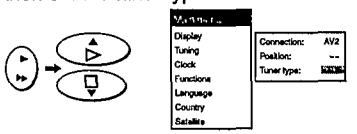
NO: When the satellite receiver is not connected to the VCR.
RF: When the satellite receiver is connected to RF IN socket of the VCR.
AV1: When the satellite receiver is connected to AV1 socket of the VCR.
AV2: When the satellite receiver is conneted to AV2 socket of the VCR.

- The **Position** item is also automatically set when **RF** has been selected, and cannot be changed here. To change position of satellite channel, refer to **"Manual Tuning Procedure"** on page 38.

4 Select **Tuner type.**



5 First check the attached list of compatible satellite receivers, and then set the tuner type number.



- It is not possible to control a receiver which is not on the attached list of compatible satellite receivers.
- It is also possible to select by pressing the **numeric button.** Be sure that the **VCR/TV** switch is set to **VCR.**

6 Press **OK**, and then press **EXIT.**

Preset Type

The satellite receiver mode must be set before attempting to select satellite channels or perform timer recording. The procedure to set the mode can be divided into the following 5 types by satellite receiver. Check which one applies on the attached list before proceeding.

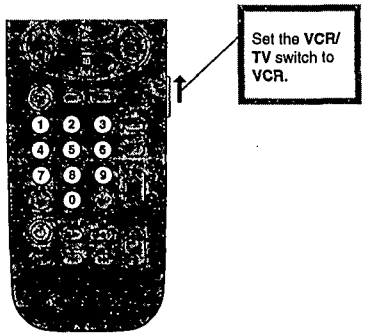
[illegible]	Controllable functions
A	Keep the satellite receiver's power ON.
B	No action needs to be taken. (The satellite receiver's power may even be OFF.)
C	After having turned on the satellite receiver's power, select the 2-digit display mode.
D	Turn on the satellite receiver's power, and switch to the tuner used by the VCR.
E	Turn on the satellite receiver's power, and switch to the tuner used by the VCR. Then select the 2-digit display mode for the satellite receiver.

Check out the compatible satellite receiver list on the attached list thoroughly before purchasing a new receiver.

Notes:

- The VCR may not be able to control some products or models of satellite receiver, due to the choice of remote control coding being beyond our control.
- Check that the satellite receiver can be properly controlled.
- Try satellite broadcast timer recording once to check that timer recording works properly.

How to select the satellite channel



Press the **numeric buttons** on the remote controller.

- Be sure that the **VCR/TV** switch is set to **VCR.**

SAT 9: SAT 0 → SAT 0 → 9
SAT 19: SAT 0 → 1 → 9

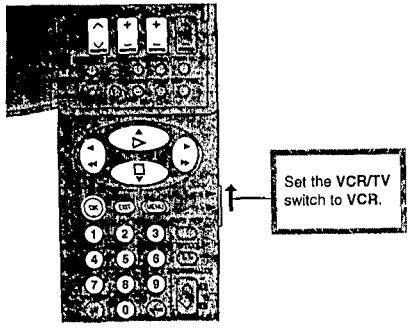
- There will be a slight delay after pressing a button before channel change occurs. This is due to signal conversion.
- The range of satellite channels available for selection is 1 through 99.
- With some satellite receivers, it is not possible to select satellite channels up to 99.
- With some satellite receivers, it is not possible to select any more channels beyond the highest number of the channels which can be selected by the satellite receiver if that number is 99 or less.
- With some satellite receivers, it is necessary to leave a short interval after selecting one channel before attempting to select another channel.
- If the display on the satellite receiver fails to indicate the channels, refer to the operating instructions of the satellite receiver and follow the procedure for displaying the channels.

Storing TV Stations into your VCR

The VCR is fitted with its own tuner (just like a normal TV set) and can be pre-set to receive up to 99 TV broadcast stations.
If VCR is not correctly tuned by Auto setup, follow the procedure below.

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.



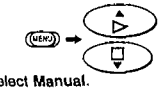
Manual Tuning Procedure

Follow the on screen operation guide.

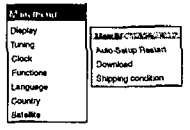
When deleting stations, adding "blank" positions and changing (moving) the programme position:

These indications do not appear on the screen after performing Preset Download (Download).

1 Press **MENU** and select **Tuning**.

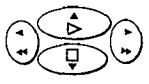


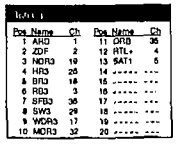
On Screen Display



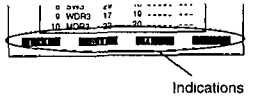
2 Select **Manual**.

3 Select the desired programme position.





4 Follow the steps indicated below.



Delete: Press ∨(red) to delete the station.
Add: Press –(green) to add a blank position
Move: Press –(yellow) to change (move) the programme position.

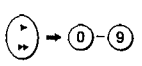
- The blue indication represents no function.
- These indications do not appear after performing Preset Download (Download).

5 Press **OK**, and then press **EXIT**.

Changing the Programme Position (Pos)

Follow 1 to 3 in the first procedure.

4 Press **OK** and then select **Pos**.
- Be sure that the **VCR/TV** switch is set to **VCR**.



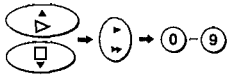
5 Press **OK** to confirm.

6 Press **MENU**, and then press **EXIT**.

Changing the Channel (Channel)

Follow 1 to 3 in the first procedure.

4 Press **OK** and then select **Channel**.
- Be sure that the **VCR/TV** switch is set to **VCR**.



5 Press **OK** to confirm.

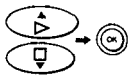
6 Press **MENU**, and then press **EXIT**.

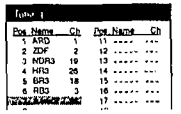
Changing the Station name (Name)

Follow 1 to 2 on page 38.

3 Select the station(s) name ∗□□□□.
Establish which channel you are viewing by checking your TV Guide/Newspaper.

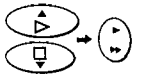
On Screen Display

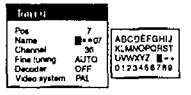




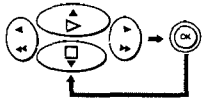
- "□" indicates the position number or station name. This is the same as steps 4 and 5.

4 Select **Name**.





Enter characters into all five ∗□□□□ positions from the table using the arrows and press **OK** after each character. Use a blank space if required. To enter a blank, select the area between Z and ∗.
- To cancel during entry, press **EXIT**.
  The characters that have been entered will remain as the station name. Enter the correct station name as failure to do so may result in malfunctioning.



- No changes can be made to the TV station name while **"SAT "** is displayed when **Connection** is set to **RF**. (See page 36.)

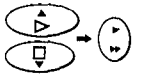
5 Press **MENU**. If any other station names are marked ∗□□□□, repeat steps 3-5.

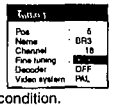
6 Press **EXIT**.

Fine Tuning

Follow steps 1 to 3 on page 38.

4 Press **OK** and then select **Fine Tuning**.





5 Press ▲ or ▼ to obtain the best tuning condition.
- To return the tuning to its former state (**AUTO**), press ▶.

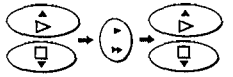
6 Press **OK** to confirm.

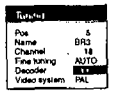
7 Press **MENU**, and then press **EXIT**.

Decoder

Follow steps 1 to 3 on page 38.

4 Select **Decoder** ON or **Decoder** OFF.
ON :To preset pay TV stations.
OFF :To preset normal TV stations.





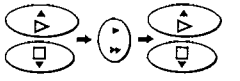
5 Press **OK** to confirm.

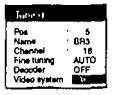
6 Press **MENU**, and then press **EXIT**.

Changing the Video System (Video system)

Follow steps 1 to 3 on page 38.

4 Press **OK** and then select **Video system**.
PAL: For receiving PAL signal.
MESECAM: For receiving SECAM signal.





5 Press **OK** to confirm.

6 Press **MENU**, and then press **EXIT**.

Notes:
- When channels have been set with manual tuning, the channel position will need to be entered the first time ShowView is used.
- When Preset Download (Download) has been executed, do not perform Manual Tuning. This is because when the tuning contents for the TV are changed, this information is downloaded to the VCR again, possibly erasing the independent contents input by Manual Tuning.

Channel Plan

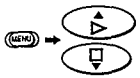
Channel Indication	TV Channel Germany/Italy	TV Channel Other Countries
2-12	*E2-E12	E2-E12
13-20	A-H (Only Italy)	—
21-69	21-69	21-69
74-78	S01-S05	S1-5
80-82	S1-S3	M1-M3
83-89	S4-S10	M4-M10
90-99	S11-S20	U1-U10
121-141 Hyperband	**S21-S41	S21-S41

*In Italy: H1...(11), H2...(12)
**Only for 8 MHz channel raster

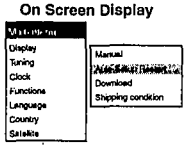
Auto-Setup Restart

When your address changes, follow the procedure below.

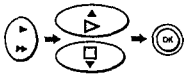
1 Press **MENU** and select **Tuning**.



On Screen Display



2 Select **Auto-setup Restart** and press **OK**.

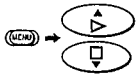


3 Press **OK** again.

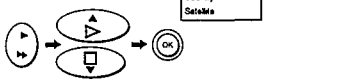
Download

To perform downloading again, follow the procedure below in the stop mode.

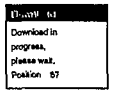
1 Press **MENU** and select **Tuning**.



2 Select **Download** and press **OK**.



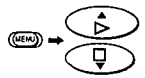
3 Press **OK** again.



Shipping Condition

If you want to return the VCR to the factory-preset condition, follow the procedure below.

1 Press **MENU** and select **Tuning**.



2 Select **Shipping condition** and press **OK**.

3 Press **OK** twice.

Note:
To re-tune the VCR, disconnect and then reconnect the mains lead.

Setting the Clock of your VCR

The built-in clock is used to activate the timer for automatic recording and must be set to the correct time.
The built-in digital clock employs the 24-hour system.
If VCR is not correctly set by Auto setup, follow the procedure below.
The clock backup system operates for at least 60 minutes in the event of power failure.

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.

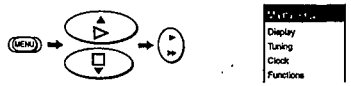
Manual Clock Setting

Follow the on screen operation guide.

Operations

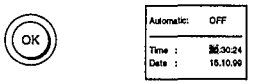
1 Press **MENU**, and then select **Clock**.

On Screen Display



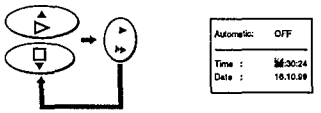
2 Check that the **Automatic** setting is **OFF**, then press **OK**.

- If the setting is **ON** when you open the On Screen Display, do not turn it **OFF**, as then you will not be able to set the time automatically.



3 Set **Time** and **Date**.

- Press ◀ to return to the previous item.



4 Press **OK** to confirm.

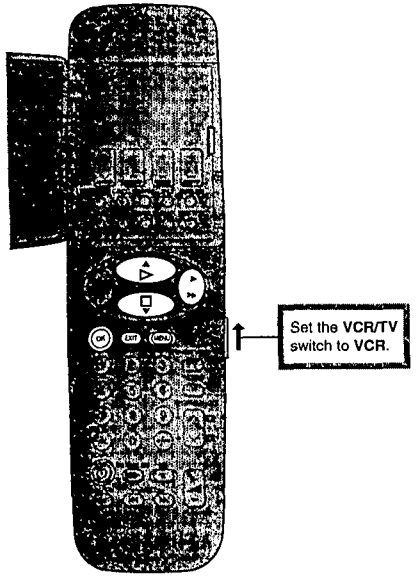
5 Press **EXIT**.

Note:
When the Automatic setting is **OFF** and the **Power save** setting is **ON**, the time may become incorrect. If this happens, reset it following the method described above.

Automatic Clock Setting

When **"Automatic"** is set to **ON**, the automatic time correcting function is activated every day.
The automatic time correcting function is only activated when the power is off.
When the **Power save** setting is **ON** when the power is off, this function will not work. In this case, set the time automatically immediately after turning on your VCR.
This function is not activated during timer recording standby mode.

Settings Using On Screen Display



The VCR indications shown on the TV screen are known as the On Screen Display (OSD).
This VCR allows many settings to be made at the OSD.

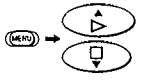
Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR and TV.

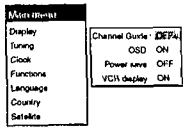
Display

Channel Guide

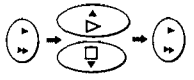
1 Press **MENU**, and then select **Display**.



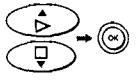
On Screen Display

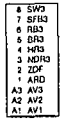


2 Select **Channel Guide**.



3 Select **ON** or **OFF**.



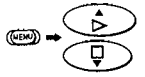


ON: The Channel Guide will appear for a few seconds each time the channel is changed with ∨∧(⏭⏮).
OFF: The Channel Guide will not appear.

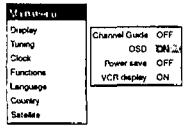
4 Press **EXIT** to exit the On Screen Display.

OSD

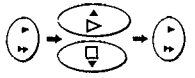
1 Press **MENU**, and then select **Display**.



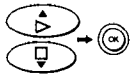
On Screen Display



2 Select **OSD**.



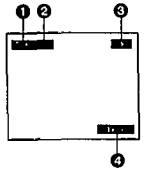
3 Select **ON** or **OFF**.



ON: The On Screen Display will appear on the TV screen.
OFF: The On Screen Display will not appear.

4 Press **EXIT** to exit the On Screen Display.

To use the On Screen Display:



❶ TV station

❷ TV system

❸ Tape speed indicator

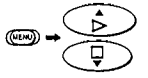
❹ One-Touch Recording (OTR) indication

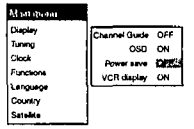
Notes:

- When the item "**OSD**" is set to **OFF**, the On Screen Display (**❶**, **❷**, **❸**, **❹**) will not appear.
- When the AV position has been selected, the On Screen Displays (**❶**, **❷**) do not appear. While playback is in progress, the On Screen Displays (**❶**, **❷**, **❹**) do not appear.
- The On Screen Display does not appear during special playback.

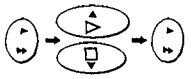
Power save

1 Press **MENU**, and then select **Display**.

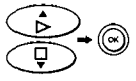




2 Select **Power save**.



3 Select **ON** or **OFF**.



ON: This setting conserves power when the VCR is off.
- The **VCR display** settings are automatically set to **OFF**.
- To turn on the VCR, keep **POWER⏻/I** pressed **on the VCR main unit.**
  You cannot turn it on using **POWER⏻** on the remote controller.
- The Power save function will work only in the normal standby mode.
  It will not operate in the Timer standby mode.
  After recording **all** programmes and erasing all programmed data, the VCR will go into Power save mode.
- When the Power save setting is ON, the scrambled signal cannot be watched because the decoder cannot be used.

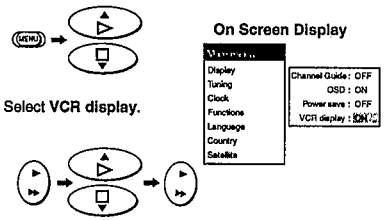
OFF: This setting does not conserve power when the VCR is off.

4 Press **EXIT** to exit the On Screen Display.

VCR display

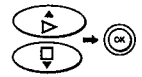
This setting is activated only when the **Power save** setting is set to **OFF**.

1 Press **MENU**, and then select **Display**.



2 Select **VCR display**.

3 Select **ON**, **OFF** or **DIMMED**.



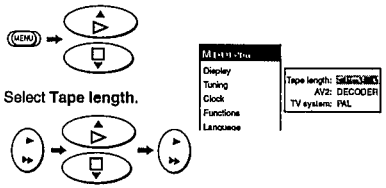
ON: When VCR is turned off, the characters are lit in the VCR display.
OFF: When VCR is turned off, the characters are not lit in the VCR display.
DIMMED: When VCR is turned off, the characters are dimmed in the VCR display.

4 Press **EXIT** to exit the On Screen Display.

Functions

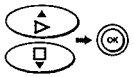
Tape length

1 Press **MENU**, and then select **Functions**.



2 Select **Tape length**.

3 Select the corresponding cassette tape length for displaying the Approximate Remaining Tape Time.

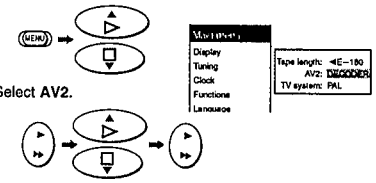


◀E-180: For E30, -60, -90, -120 and -180 tapes.
E-195: For E195 tape.
E-240: For E240 tape.
E-260▶: For E260 and -300 tapes.
- The times displayed may differ depending on the tape used.

4 Press **EXIT** to exit the On Screen Display.

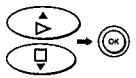
AV2

1 Press **MENU**, and then select **Functions**.



2 Select **AV2**.

3 Select **EXT** or **DECODER**.

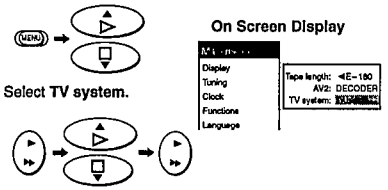


EXT: When another VCR or a satellite receiver is connected to the AV2 (DECODER/EXT) socket.
DECODER: When the decoder is connected to the AV2 (DECODER/EXT) socket.

4 Press **OK**, and then press **EXIT** to exit the On Screen Display.

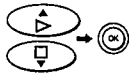
To set the Colour TV System (TV system)

1 Press **MENU**, and then select **Functions**.



2 Select **TV system**.

3 Select **PAL** or **MESECAM**.

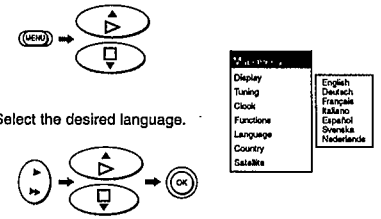


- Set according to the colour TV system used during playback or external recording.

4 Press **EXIT** to exit the On Screen Display.

Language

1 Press **MENU**, and then select **Language**.

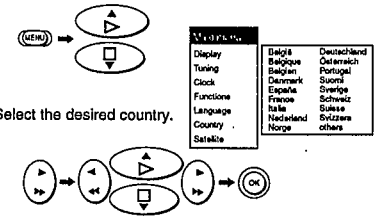


2 Select the desired language.

3 Press **EXIT** to exit the On Screen Display.

Country

1 Press **MENU**, and then select **Country**.



2 Select the desired country.

3 Press **EXIT** to exit the On Screen Display.

MEMO

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2-1-1. DISASSEMBLY FLOW CHART

This flow chart indicates disassembly steps of the cabinet parts and the circuit boards in order to find the necessary items for servicing.
When reassembling, perform the steps in the reverse order.

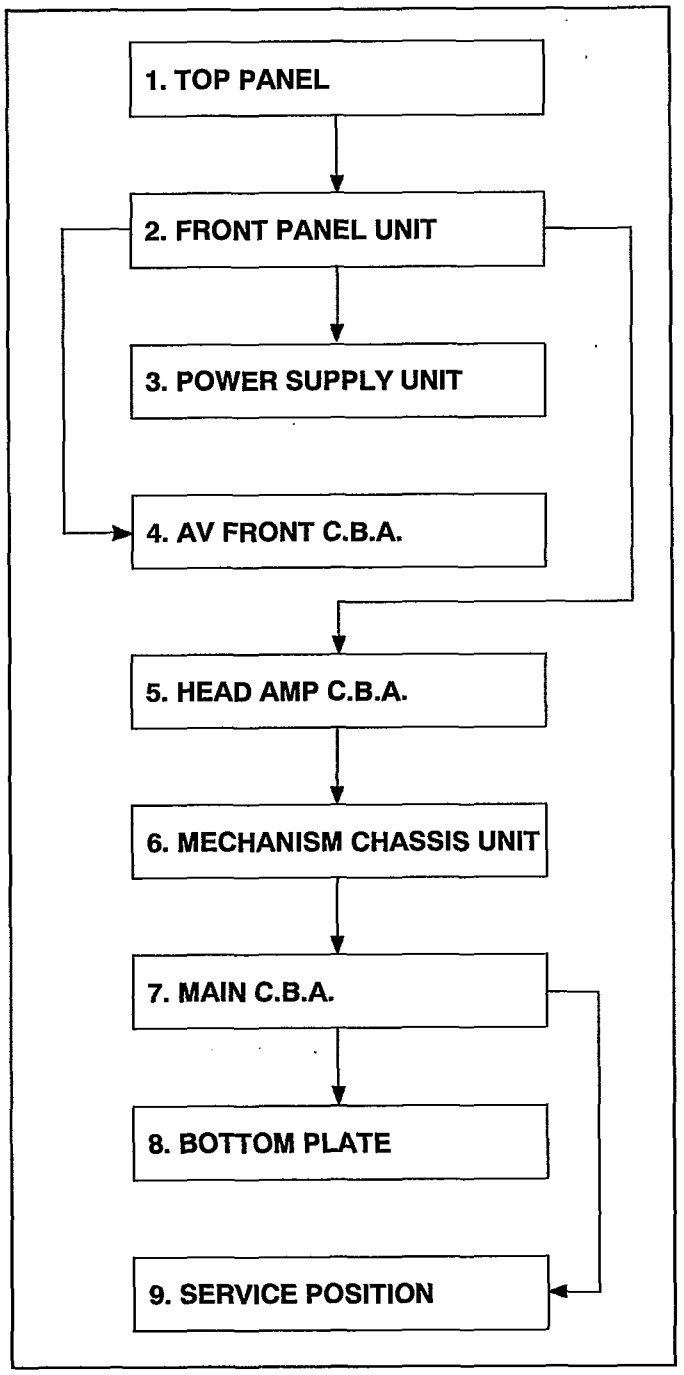


Fig. D1

1. REMOVAL OF THE TOP PANEL

Remove ..... 4 Screws (A)

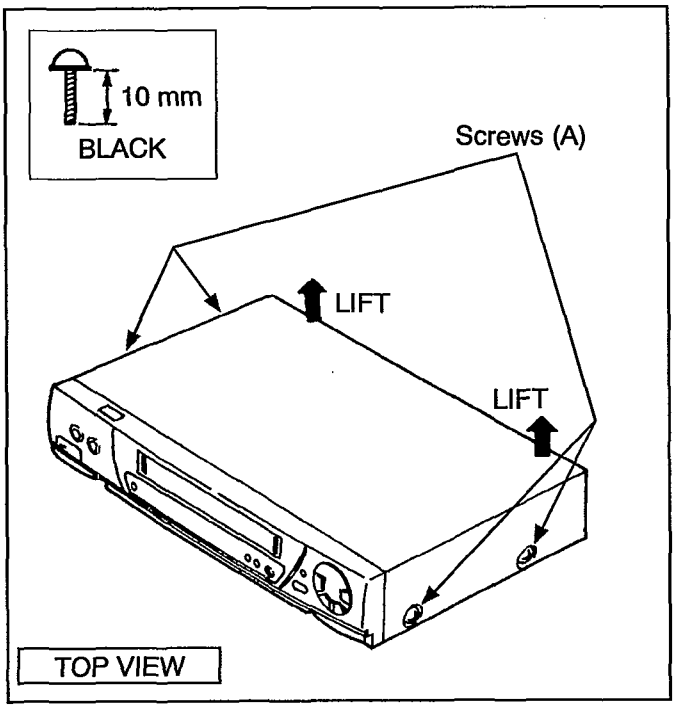


Fig. D2

2. REMOVAL OF THE FRONT PANEL UNIT

Unlock ..... 7 Tabs (B)

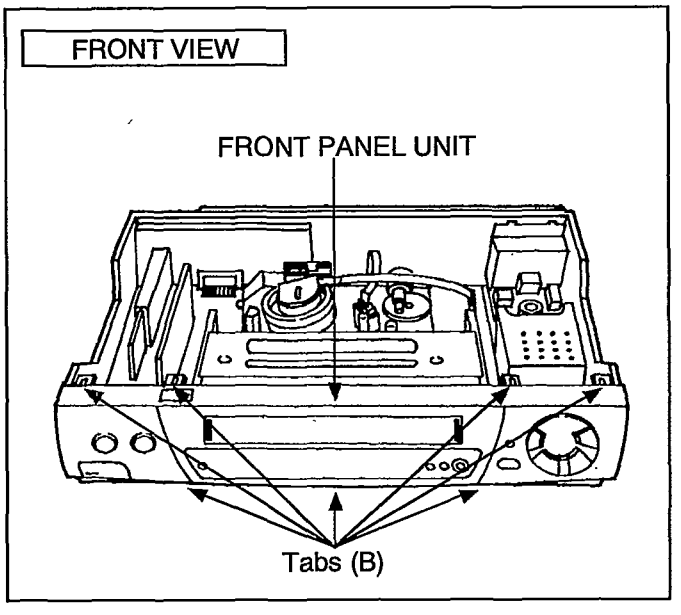


Fig. D3

3. REMOVAL OF THE POWER SUPPLY UNIT

Unlock ..... 6 Tabs (C)
Disconnect ..... Bridge connector (D)

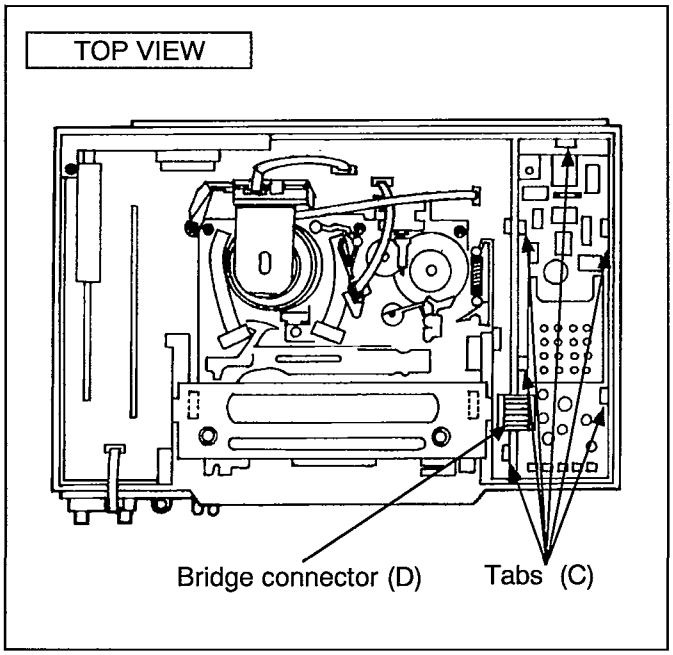


Fig. D4

4. REMOVAL OF THE AV FRONT C.B.A.

Unlock ..... 3 Tabs (E)
Disconnect ..... Flat cable (F)

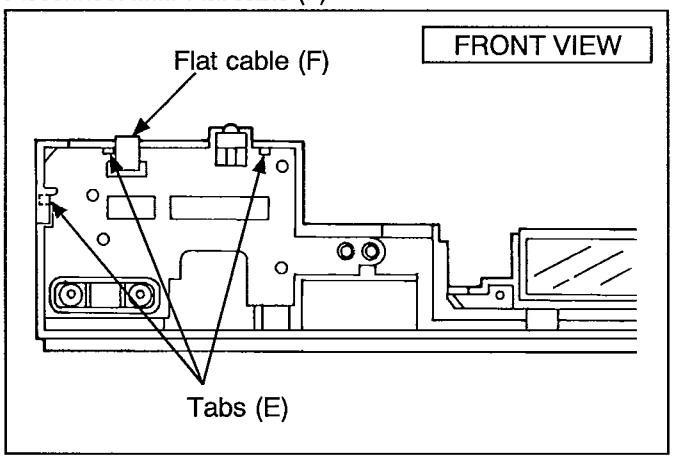


Fig. D5

5. REMOVAL OF THE HEAD AMP C.B.A.

Remove ..... Screw (G)
Disconnect ..... Connector (H)

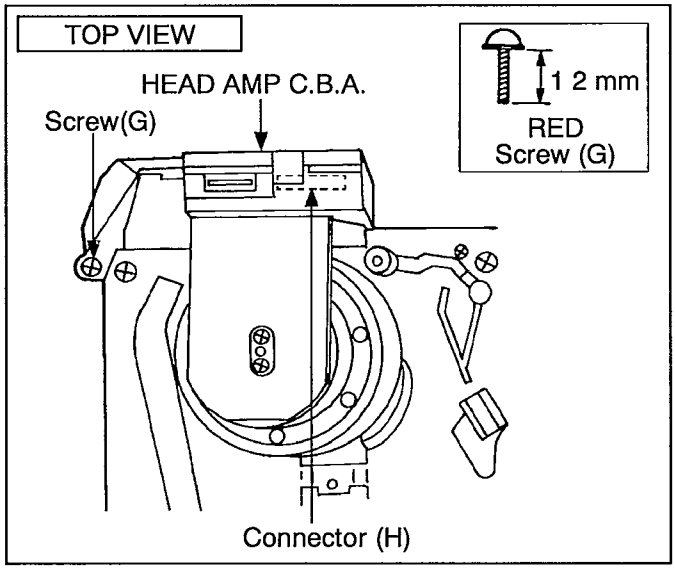


Fig. D6

6. REMOVAL OF THE MECHANISM CHASSIS UNIT

Remove ..... 3 Screws (I)
Remove ..... 2 Screws (J)

Note:
Before removing 2 screws in the front, keep pressing 2 stoppers on Cassette Holder Plate and Press Cassette Holder Plate to the rear.
(or insert a cassette tape and press it to the rear until you will be able to remove 2 screws in the front when remove it.)

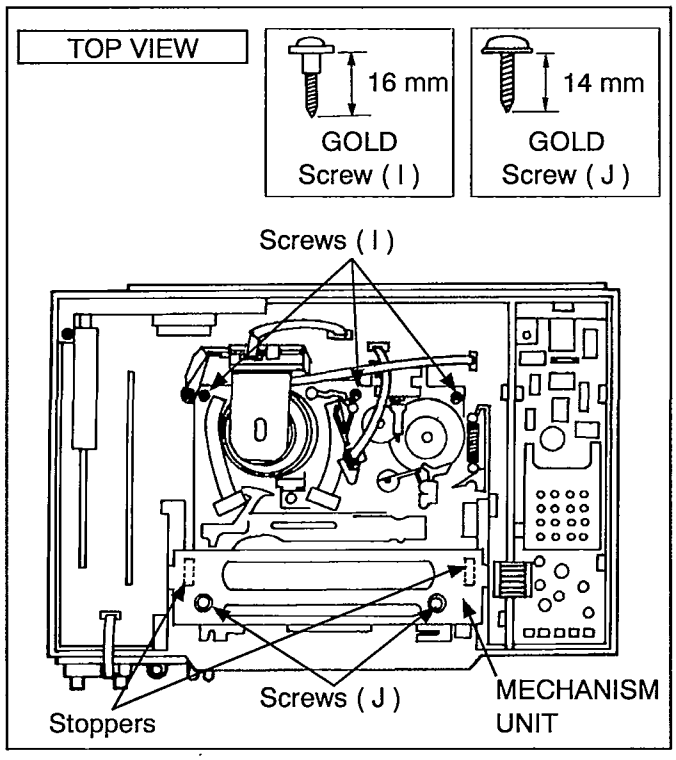


Fig. D7

7. REMOVAL OF THE MAIN C.B.A.

Disconnect ..... Bridge Connector (D)
Remove ..... Screw (K)
Unlock ..... 7 Tabs (L)

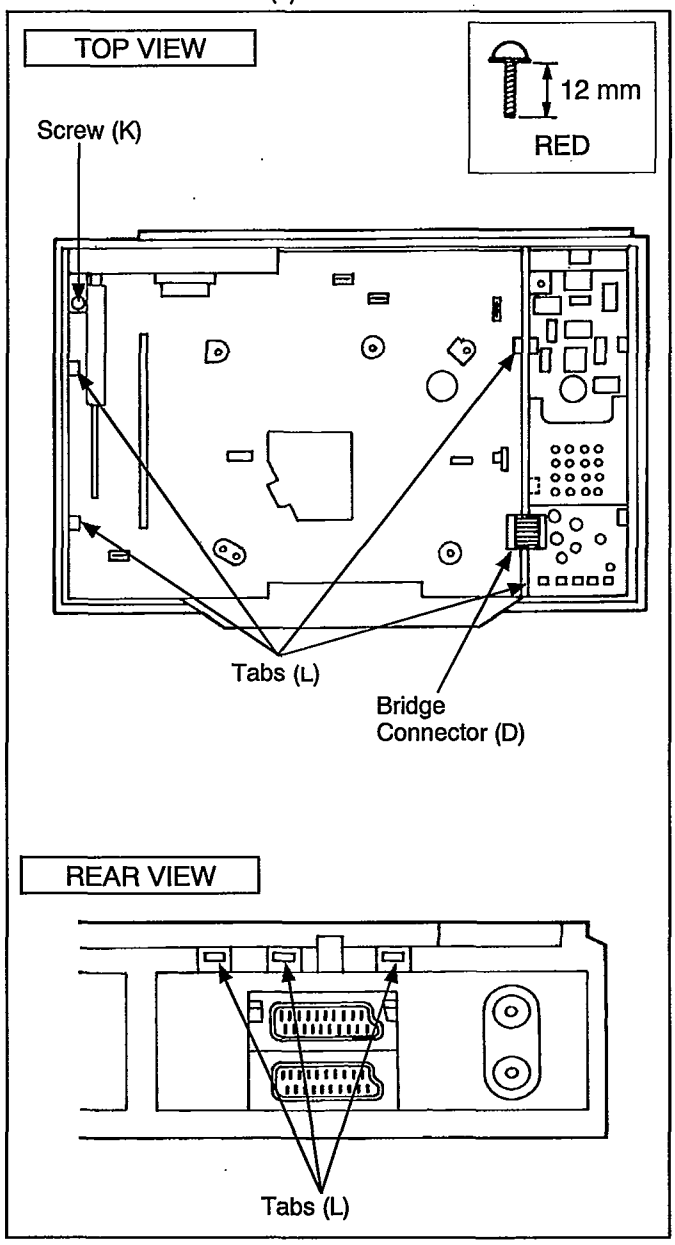


Fig. D8

8. REMOVAL OF THE BOTTOM PLATE

Unlock ..... 10 Tabs (M)

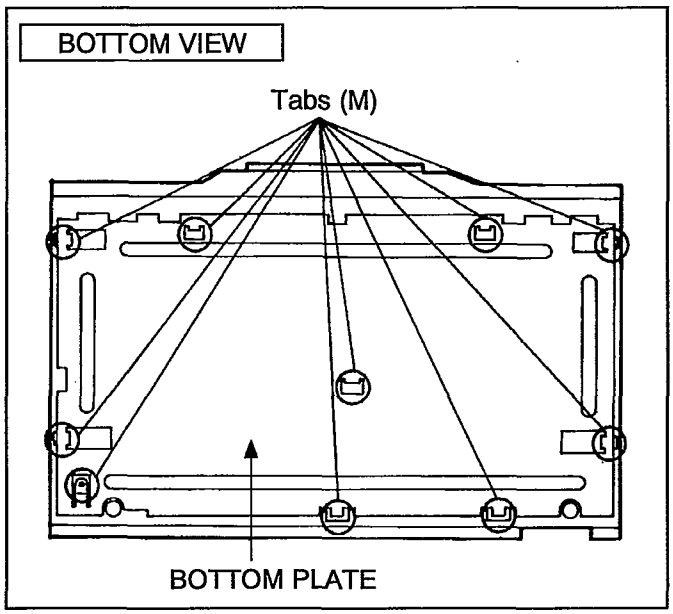


Fig. D9

9. SERVICE POSITION

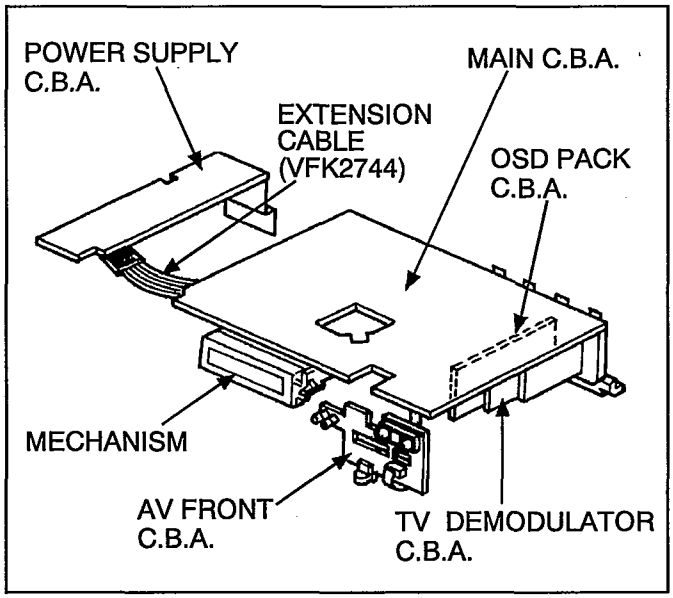


Fig. D10

2-2. MECHANICAL ADJUSTMENT PROCEDURES

Refer to the Service Manual for Z Mechanism Chassis.
(Order No.: VRD9802005C2)

2-3. ELECTRICAL ADJUSTMENT PROCEDURES

2-3-1. TEST EQUIPMENT

The following equipments are required for Electrical Adjustments.

1. Dual-Trace Oscilloscope • Voltage Range : 0.005 - 5 V/div • Frequency Range : DC - 35 MHz • Probes : 10:1 / 1:1	3. Universal Counter 4. Digital Volt Meter (D.V.M.) 5. Video Sweep Generator 6. Sinewave Generator	10. VHS Blank tape 11. VHS Alignment Tape • Part No. : VFJ8125H3F (PAL) • Part No. : VFM8080HQFP (NTSC)
2. Frequency Counter • Frequency Range : 0 - 10 MHz • Probes : 1:1	7. Video Pattern Generator 8. Monitor TV 9. DC Power Supply	

2-3-2. VCR SETTING

When no indication in the procedure, set each selector as follows.

1. TAPE SPEED : SP
2. CHANNEL : AV1/AV2 (Set to signal input terminal number)

2-3-3. ADJUSTMENTS

ITEM	TP	ADJ.	MODE	INPUT	TAPE	M. EQ.	SPEC.	REMARKS
PG SHIFTER ADJUSTMENT	———	———	PLAYBACK	———	ALIGNMENT TAPE (PAL)	———	———	Refer to the procedure of PG SHIFTER ADJUSTMENT as shown in Fig. E5.
RECORDING CURRENT ADJUSTMENT	TW3030	VR3003 (Y) VR3002 (C)	RECORDING STOP	PAL COLOUR BAR	BLANK TAPE	OSCILLO-SCOPE	Y : 230 ± 10 (mVp-p) C : 57 ± 4 (mVp-p)	1. Set VCR to TEST mode. 2. When adjusting Chrominance level, place VCR to STOP mode. (See Fig. E2) 3. When adjusting Luminance level, place VCR to Recording mode. (See Fig. E1)
VIDEO FREQUENCY RESPONSE ADJUSTMENT	VIDEO OUT	VR3004 (SP) VR3005 (LP)	SP/LP PLAYBACK (SELF-REC)	VIDEO SWEEP	BLANK TAPE	OSCILLO-SCOPE VIDEO SWEEP GENERATOR	SP : 0+-1 (dB)(90-110%) LP : 0+-1 (dB)(90-110%) (See Fig. E4)	1. Set VCR to TEST mode. 2. Set the Video sweep signal. (See Fig. E3)
AI FUNCTION ADJUSTMENT	———	———	PLAYBACK (SELF-REC)	PAL COLOUR BAR	BLANK TAPE	———	———	Refer to the procedure of AI FUNCTION ADJUSTMENT as shown in Fig. E6.

Fig. E1

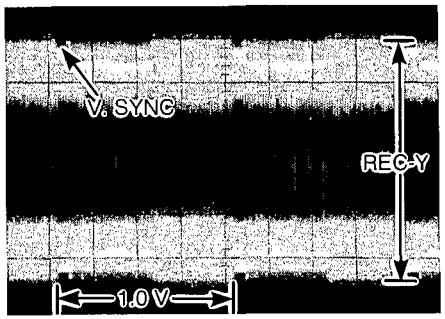


Fig. E2

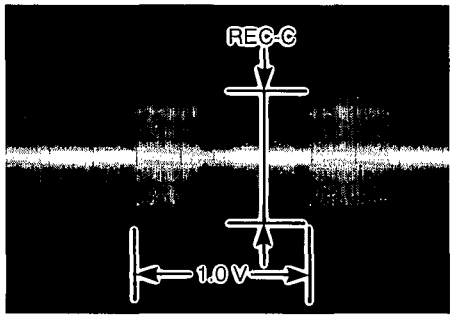


Fig. E3

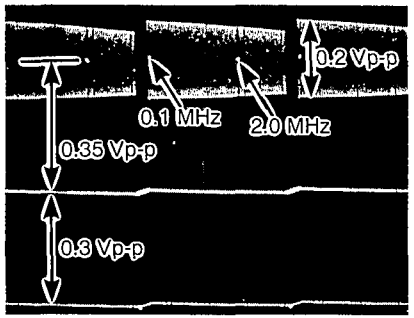
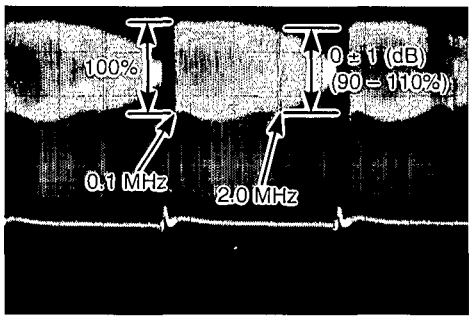


Fig. E4



2-3-4. PG SHIFTER ADJUSTMENT PROCEDURE

PROCEDURES	DISPLAY
1. To set Service Mode 2, press FF and EJECT buttons simultaneously for 3 seconds and then press the same buttons simultaneously 2 times.	
2. Press EJECT button for more than three seconds. Digit of minute is put out light.	
3. Indicate 1 in the digit of minute by pressing the channel up/ down buttons. When the cxhannel up button is pressed, 1 will be indicated in the digit of minute.	
4. Insert VHS Alignment Tape. (VFJ8125H3F)	
5. This adjustment is automatically started after VCR goes PLAY mode. (During the adjustment, the picture can be observed on the monitor.)	
6. When this adjustment is terminated, the following operation will be activated. Adjustment completed : The tape will be ejected. Adjustment incompleted : Indicates " F2∗" Check the Servo/System Control circuit and Cylinder unit.	
7. To release Service Mode 2, press FF and EJECT buttons simultaneously sixth times.	

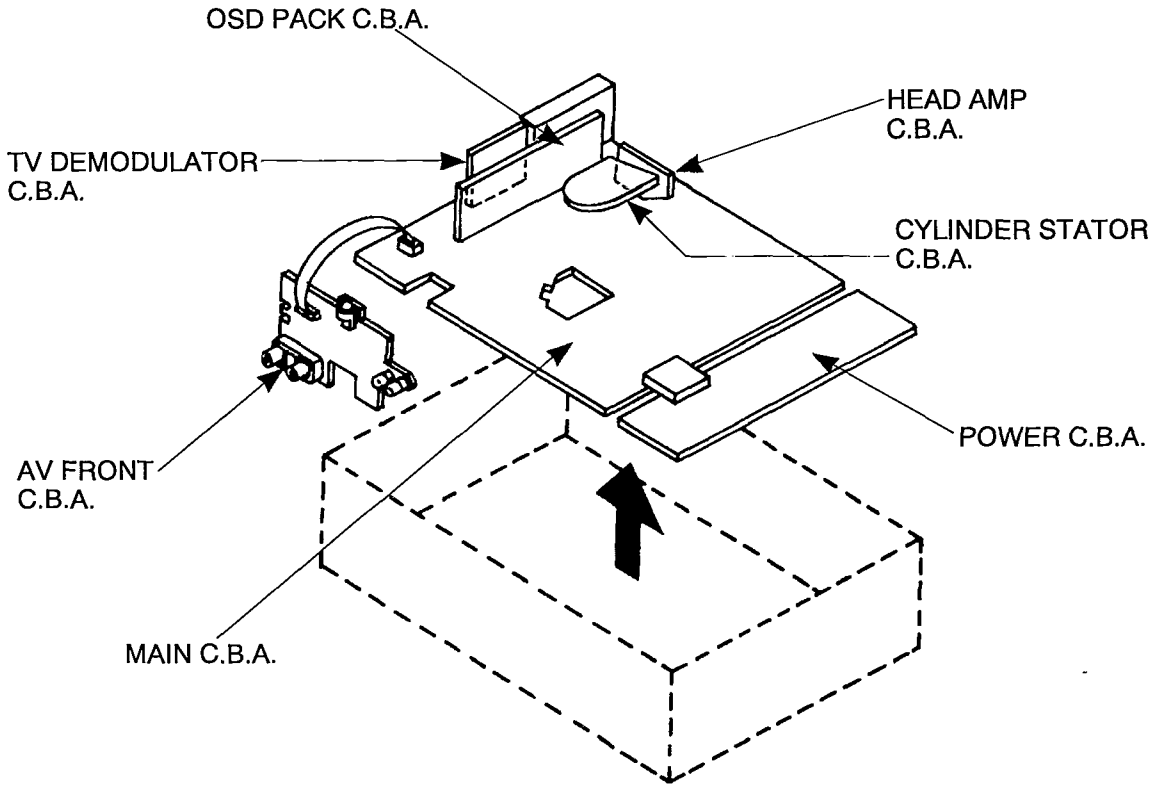
Fig.E5

2-3-5. AI FUNCTION ADJUSTMENT PROCEDURE

PROCEDURES	DISPLAY
1. To set Service Mode 2, press FF and EJECT buttons simultaneously for 3 seconds and then press the same buttons simultaneously 2 times.	
2. Press EJECT button for more than three seconds. Digit of minute is put out light.	
3. Indicate 3 in the digit of minute by pressing the channel up/ down buttons 3 times. When the channel up button is pressed 3 times, 3 will be indicated in the digit of minute.	
4. Insert blank Tape.	
5. This adjustment is automatically started after VCR goes Recording and PLAY mode. (During the adjustment, the picture can be observed on the monitor.)	
6. When this adjustment is terminated, the following operation will be activated the tape will be ejected.	
7. To release Service Mode 2, press FF and EJECT buttons simultaneously sixth times.	

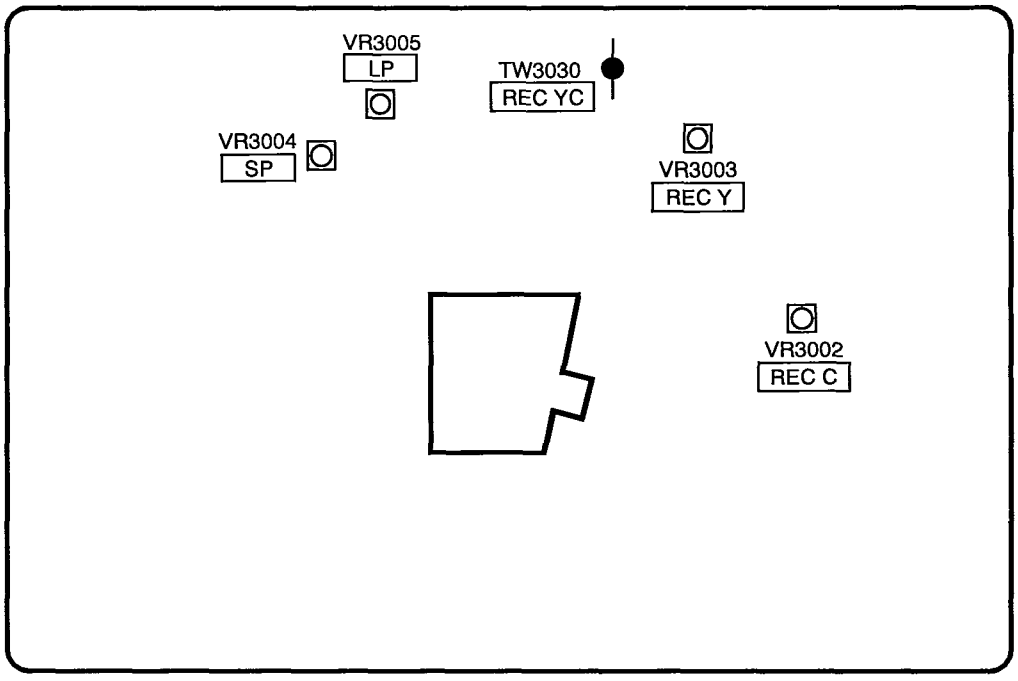
Fig.E6

CIRCUIT BOARD LAYOUT



LOCATION OF TEST POINTS & ADJUSTMENT

MAIN C.B.A.



SECTION 3
BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS

3-1. ABBREVIATIONS & INPUT/OUTPUT CHART FOR IC6001

443NT [L]	4.43 NTSC Ⓛ	BIL. [H]	BILINGUAL Ⓗ
A. COMP	AUDIO COMPONENT SIGNAL	BIL/M1[L]	BILINGUAL Ⓛ
A. COMPO	AUDIO COMPONENT SIGNAL	BS CLOCK	BS CLOCK
A. D.P [L]	AUDIO DUBBING PAUSE Ⓛ	BS DATA	BS DATA
A. D/L [L]	AUDIO DUBBING PAUSE Ⓛ	BS LCH IN	BS L CHANNEL INPUT
A. DEF [S]	AUDIO DEFEAT	BS MIX [H]	BS MIX Ⓗ
A.DEF [S] [L]	AUDIO DEFEAT	BS MON [H]	BS MONITOR Ⓗ
A. DUB P [L]	AUDIO DUBBING PAUSE Ⓛ	BS MONI [H]	BS MONITOR Ⓗ
A. DUB [H]	AUDIO DUBBING Ⓗ	BS RCH IN	BS R CHANNEL INPUT
A. ERASE	AUDIO ERASE	BS VIDEO	BS VIDEO SIGNAL
A. H. SW	AUDIO HEAD SWITCHING PULSE	BS VIDEO/BS1	BS VIDEO SIGNAL
A. HEAD [R]	AUDIO HEAD (REC)	BS [H]	BS Ⓗ
A. HEAD [W]	AUDIO HEAD (PLAY)	BS. LEVEL	BS LEVEL
A. IN [L]	AUDIO INPUT (L)	BS. M [H]	BS MONITOR Ⓗ
A. IN [R]	AUDIO INPUT (R)	BS/VTR [H]	BS/VTR Ⓗ
A. MUT [H]	AUDIO MUTE Ⓗ	BUS CLK	BUS CLOCK
A. MUTE [H]	AUDIO MUTE Ⓗ	BUS LSN	BUS LISTEN
A. OUT [L]	AUDIO OUTPUT (L)	BUS TLK	BUS TALK
A. OUT [R]	AUDIO OUTPUT (R)	BUZZER	BUZZER
A. RF OUT	AUDIO RF SIGNAL OUTPUT	CAP EC	CAPSTAN TORQUE CONTROL
A/VS/S. DATA	AV SW/SERIAL DATA	CAP M GND	CAPSTAN MOTOR GND
AC ONLINE	AC ONLINE	CAP. ET	CAPSTAN TORQUE CONTROL
AC. O/EE. H	AC ONLINE/EE Ⓗ	CAP. FG1	CAPSTAN FG1 PULSE
AFC S C	AFC S CURVE	CAP. FG2	CAPSTAN FG2 PULSE
AFC [S]	AFC S CURVE	CAS. SW	CASSETTE SW
AFC. DEF	AFC DEFEAT	CCN	PLAYBACK CONTROL SIGNAL (−)
ARFC OUT	AUDIO RF SIGNAL OUTPUT	CCP	PLAYBACK CONTROL SIGNAL (+)
ART. V	ARTIFICIAL VERTICAL SYNC SIGNAL	CHM	CONTROL SIGNAL (+)
ART. V. MM	ARTIFICIAL VERTICAL SYNC SIGNAL MONO MULTI	CHP	CONTROL SIGNAL (−)
		CINEM [L]	CINEMA Ⓛ
ART. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL Ⓗ / NORMAL	CINEMA [L]	CINEMA Ⓛ
		CINEMA/MIX	CINEMA/MIX
AT. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL	CKL	RATCH LOCK
ATSW/TEST/NOR/SE	TEST/NORMAL/SERVICE	CKS	SHIFT LOCK
AUDIO IN [L]	AUDIO INPUT (L)	CL	CLOCK
AUDIO IN [R]	AUDIO INPUT (R)	CLK	CLOCK
AUDIO OUT [L]	AUDIO OUTPUT (L)	CLK (C.G)	CLOCK
AUDIO OUT [R]	AUDIO OUTPUT (R)	CLOCK. IN	CLOCK INPUT
AUDIO SELECT [H]	AUDIO SELECT Ⓗ	CLP	CLAMP
AUDIO. L	AUDIO (L)	COL/B/W/NOR	COLOUR/BLACK & WHITE/NORMAL
AUDIO. R	AUDIO (R)	COLOR [H]	COLOUR Ⓗ
AV CNT	AV CONTROL	CONV	CONVERTOR
AV CTL	AV CONTROL	CS	CHIP SELECT
AV CTL/S. CLK	AV CONTROL/SERIAL CLOCK	CTL GND	CONTROL GND
AV. C.M.	AV CONTROL MODE	CTL HEAD [+]	CONTROL HEAD (+)
AVCNT/METER. R	AV CONTROL/LEVEL METER(R)	CTL HEAD [−]	CONTROL HEAD (−)
AVSW/METER. L	AV SW/LEVEL METER (L)	CTL[+]	CONTROL HEAD (+)
B MODE. H	B MODE Ⓗ	CTL[−]	CONTROL HEAD (−)
B.G.P	BURST GATE PULSE	CUE BIAS	CUE BIAS
BACKUP 5V	BACK UP 5V	CURRENT LIM	CURRENT LIMITER
BAND. U.E.	BAND U	CYL ET	CYLINDER TORQUE CONTROL
BANDVL. D	BAND VL	CYL GND	CYLINDER GND
BI/MI [L]	BILINGUAL/MIX Ⓛ	D.F.M. REC [H]	DELAYED FM RECORDING Ⓗ
BIL	BILINGUAL	D. FM REC [L]	DELAYED FM RECORDING Ⓛ
BIL [L]	BILINGUAL Ⓛ	D. GND	DIGITAL GND

D. REC [H]	DELAYED RECORDING Ⓗ	H.SYNC	HORIZONTAL SYNC
D4/S. LED	D4/STILL LED	H. AMP. SW	HEAD AMP SW PULSE
D4/STILLED	D4/STILL LED	H. P <R>	HEAD PHONE (R)
DAC [CLK]	TUNER DAC (CLOCK)	H. P <L>	HEAD PHONE (L)
DAC/FSCS	TUNER DAC/FS CHIP SELECT	H. P GND	HEAD PHONE GND
DAREC [H]	DELAYED AUDIO RECORDING Ⓗ	H. P OUT [L]	HEAD PHONE OUTPUT (L)
DATA	DATA	H. P OUT [R]	HEAD PHONE OUTPUT (R)
DECODER [L]	DECODER (L)	H. SW	HEAD SW PULSE
DECODER [R]	DECODER (R)	HEAD PHONE [L]	HEAD PHONE (L)
DEW	DEW	HEAD PHONE [R]	HEAD PHONE (R)
DEW SNS	DEW SENSOR	HEAD SW	HEAD SW
DFMRE [H]	DELAYED FM AUDIO RECORDING Ⓗ	HEATER [+]	HEATER (+)
E. REC 5V	EXCEPT RECORDING 5V	HEATER [−]	HEATER (−)
EC	ERROR TORQUE CONTROL	HSS	HORIZONTAL SYNC SIGNAL
ECR	ERROR TORQUE CONTROL	HTR [+]	HEATER (+)
	REFERENCE VOLTAGE	HTR [−]	HEATER (−)
EDT TRIG [L]	EDIT TRIGGER Ⓛ	I RFE	REFERENCE CURRENT
EDIT [H]	EDIT Ⓗ	ICL	CONTROL AGC CIRCUIT
EE [H]	EE Ⓗ	IF	INTERMEDIATE FREQUENCY
EE [H]/INS [M]	EE Ⓗ /INSERT Ⓜ	IN SELA 1	INPUT SELECT A1 POSITION
EE. VV. TR	EE/VV/TRICK PLAY	IN SELA 2	INPUT SELECT A2 POSITION
EJECT. PO	EJECT POSITION	IN SELA 3	INPUT SELECT A3 POSITION
EJECT/VDET	EJECT/REVERSE SLOW LOCK	INS L/R [L]	INSERT Lch/Rch Ⓛ
ENV. SEL	ENVELOPE SELECT	INS. [H]	INSERT Ⓗ
ENVE. OUT	ENVELOPE OUTPUT	INSEL A1	INPUT SELECT A1 POSITION
ENVE. SEL	ENVELOPE SELECT	INSEL A2	INPUT SELECT A2 POSITION
ENV SELECT	ENVELOPE SELECT	INSERT	INSERT
EP [H]	LP Ⓗ	INSERT [H]	INSERT Ⓗ
EP/LP [H]	LP Ⓗ	IO CS	INPUT/OUTPUT CHIP SELECT
EP/ LP/SP	LP/SP	JOG1	JOG1
EP/SS [H]	LP/SLOW/STILL/STOP Ⓗ	JOG S3 LED/FOWRD	JOG LED/FORWARD LED
EPROMCS	EPROM CHIP SELECT	JOG/F. LED	JOG LED/FORWARD LED
EX. REC 5V	EXCEPT RECORDING 5V	JSB [H]	JSB Ⓗ
FF/REW [L]	FAST FORWARD/REWIND Ⓛ	JST. CLCK	JUST CLOCK
FG1 IN	FG1 PULSE INPUT	JST. CLK	JUST CLOCK
FG2 IN	FG2 PULSE INPUT	JST. CLOCK	JUST CLOCK
FILTER ADJ.	FILTER ADJUSTMENT	L. OUT	Lch OUTPUT
FLY ERASE [H]	FLYING ERASE HEAD ON Ⓗ	L. CH [H]	Lch Ⓗ
FLY ON [H]	FLYING ERASE HEAD ON Ⓗ	L. CH [L]	Lch Ⓛ
FLY. E [H]	FLYING ERASE HEAD ON Ⓗ	LED (MAIN)	LED (MAIN)
FM MUT [H]	FM AUDIO MUTE Ⓗ	LED (STEREO)	LED (STEREO)
FM MUTE [H]	FM AUDIO MUTE Ⓗ	LED (SUB)	LED (SUB)
FM OUT [L]	FM OUTPUT (L)	LED CKL	LED SERIAL CLOCK
FM OUT [R]	FM OUTPUT (R)	LED CKS	LED SERIAL CLOCK
FM PACK OUT [L]	FM PACK OUTPUT (L)	LED DATA	LED SERIAL DATA
FM PACK OUT [R]	FM PACK OUTPUT (R)	LINE IN 1 [L]	LINE INPUT 1 (L)
FM/BS SEL [L]	FM/BS SELECT (L)	LINE IN 1 [R]	LINE INPUT 1 (R)
FM/BS SEL [R]	FM/BS SELECT (R)	LINE IN 2 [L]	LINE INPUT 2 (L)
FS. CLK	FS CLOCK	LINE IN 2 [R]	LINE INPUT 2 (R)
FUL. E [H]	FULL ERASE HEAD ON Ⓗ	LINE IN V	LINE INPUT VIDEO
FULL. E [H]	FULL ERASE HEAD ON Ⓗ	LINE IN [L]	LINE INPUT (L)
FULL. E. 12V	FULL ERASE 12V	LINE IN [R]	LINE INPUT (R)
GND [A]	GND (ANALOGUE)	LINE OUT [L]	LINE OUTPUT (L)
GND [TU]	GND (TUNER)	LINE OUT [R]	LINE OUTPUT (R)
GND/N. SW. 12V	GND/NON SW 12V	LP [H]	LP Ⓗ

LPTRI [L]	LP TRICK PLAY Ⓛ	P. OFF [L]	POWER OFF Ⓛ
Lch/A. DUB	Lch/AUDIO DUBBING	PAL [H]	PAL Ⓗ
M GND	MOTOR GND	PAL [L]/NTSC [H]	PAL Ⓛ /NTSC Ⓗ
M REG	MOTOR REGULATOR	PB ADJ. OUT	PLAYBACK ADJUST OUTPUT
MAIN OUT	MAIN OUTPUT	PB OUT	PLAYBACK OUTPUT
MAIN [L]	MAIN Ⓛ	PB. H	PLAYBACK Ⓗ
MAIN/MONO	MAIN/MONAURAL	PFG	PG/FG
MAX IN	MAXIMUM INPUT	PHOTSN +B	PHOTO SENSOR +B
MES [H]	MESECAM Ⓗ	PICT. CNT	PICTURE CONTROL
MESE [H]	MESECAM Ⓗ	PLAY LED/RVS LED	PLAY LED/REVERSE LED
MESE [L]	MESECAM Ⓛ	PLAY. PO	PLAY POSITION
METER 5V	LEVEL METER 5V	PLAY/R.LED	PLAY LED/REVERSE LED
METER [L]	LEVEL METER (L)	PLY/DEW	PLAY/DEW Ⓗ
METER [R]	LEVEL METER (R)	POWER OFF [L]	POWER OFF Ⓛ
METER. L/AVS	LEVEL METER (L)	PREROLL [H]	PREROLL Ⓗ
METER. R/AVC	LEVEL METER (R)	PWRFAIL	POWER FAILURE DETECT
MI/BI [L]	MIX Ⓗ /BILINGUAL	R. CH [H]	Rch Ⓗ
MIC GND	MIC GND	R. CH [L]	Rch Ⓛ
MIC IN	MIC INPUT	R. ST	RESET
MIC IN [L]	MIC INPUT (L)	R/S/F	REVERSE Ⓗ /STOP Ⓜ /FORWARD Ⓛ
MIC IN [R]	MIC INPUT (R)	RCH [H]	Rch Ⓗ
MIC [H]	MIC Ⓗ	REC 12V	RECORDING 12V
MIX [H]	MIX Ⓗ	REC CHROMA	RECORDING CHROMINANCE SIGNAL
MIX [H]/CINEMA [L]	MIX Ⓗ /CINEMA SOUND Ⓛ	REC H	RECORDING Ⓗ
MIX/ CINE	MIX Ⓗ /CINEMA SOUND Ⓛ	REC IN	RECORDING INPUT
MIX/CINEMA [L]	MIX Ⓗ /CINEMA SOUND Ⓛ	REC OUT [L]	RECORDING OUTPUT Ⓛ
MN. H/M. L	MONAURAL Ⓗ /MAIN Ⓛ	REC START	RECORDING START
MN. H/MAI. L	MONAURAL Ⓗ /MAIN Ⓛ	REC VR [C]	RECORDING VOLUME (COMMON)
MN2/MES. L	MONAURAL 2/MESECAM Ⓛ	REC VR [L]	RECORDING VOLUME (L)
MODE SEL	AUDIO MODE SELECT	REC VR [R]	RECORDING VOLUME (R)
MODE SW	AUDIO MODE SW	REC Y	RECORDING LUMINANCE SIGNAL
MODE. S. IN	AUDIO MODE SELECT INPUT	REC [H]	RECORDING Ⓗ
MODE. S. OUT	AUDIO MODE SELECT OUTPUT	REC. C	RECORDING CHROMINANCE SIGNAL
MONO [H]	MONAURAL Ⓗ	REC. Y	RECORDING LUMINANCE SIGNAL
MONO [H]/MAIN [L]	MONAURAL Ⓗ /MAIN Ⓛ	REC/EE CTL	RECORDING/EE CONTROL
MONO2 [L]	MONAURAL 2 Ⓛ	REEL-T	REEL PULSE(TAKE-UP)
MONO2/MESE[FM(L)]	MONAURAL 2/MESECAM(FM Ⓛ)	REEL-S	REEL PULSE (SUPPLY)
MOTOR GND	MOTOR GND	REGULATOR FILTER	REGULATOR FILTER
MUTE	MUTE	RESET	RESET
N. A. REC [L]	NORMAL AUDIO RECORDING Ⓛ	REV M F/R	REVIEW MOTOR FORWARD/REVERSE
N. SW 12V	NON SW 12V		
N. SW. 5. DET	NON SW 5V DETECT	REV M V1	REVIEW MOTOR V1
NICAM	NICAM	REV M V2	REVIEW MOTOR V2
NICAM [L]	NICAM Ⓛ	REV MOTOR F/R	REVIEW MOTOR FORWARD/REVERSE
NOL [H]	PAL Ⓗ /4.43 NTSC Ⓜ /3.58 NTSC Ⓛ		
NOR/SOFT [H]	NORMAL/SOFT TAPE PLAY Ⓗ	REV MOTOR V1	REVIEW MOTOR V1
NORMAL [H]	NORMAL Ⓗ	REV MOTOR V2	REVIEW MOTOR V2
NR BIAS	NR BIAS	REV MOTOR [+]	REVIEW MOTOR (+)
NTSC [L]	NTSC Ⓛ	REV MOTOR [−]	REVIEW MOTOR (−)
OCH	CONTROL AGC CIRCUIT	REV. M. GND	REVIEW MOTOR GND
OUT	OUTPUT	RF.CHROMA	RF CHROMINANCE SIGNAL
P-OFF [H]	POWER OFF Ⓗ	RF OUT	RF OUTPUT
P-OFF [L]	POWER OFF Ⓛ	RF Y	RF LUMINANCE SIGNAL
P. FAIL	POWER FAILURE DETECT	RF. Y. IN	RF LUMINANCE SIGNAL INPUT
P. OFF [H]	POWER OFF Ⓗ	RF. Y. OUT	RF LUMINANCE SIGNAL OUTPUT

ROTAR. SW	ROTARY SW	T. BUSCLK	TIMER BUS CLOCK
ROTARY	ROTARY SW	T. BUSLSN	TIMER BUS LISTEN
RST	RESET	T. BUSTLK	TIMER BUS TALK
RST [L]	RESET Ⓛ	T. END [L]	TAPE END Ⓛ
Rch/INST	Rch/INSERT	T. PHOTO	TAKE-UP PHOTO TRANSISTOR
S IN	SERIAL DATA INPUT	TAPE END [L]	TAPE END Ⓛ
S OUT	SERIAL DATA OUTPUT	TAPE END [L]/CAM	TAPE END Ⓛ /CAMERA PAUSE
S-PHOTO	SUPPLY PHOTO TRANSISTOR	TEST	TEST MODE
S-RL. PLS	SUPPLY REEL PULSE	TPZ	TRAPEZOIDAL WAVE CIRCUIT
S. CLK	SERIAL CLOCK	TRIC [L]	TRICK PLAY Ⓛ
S. CLK/AV	SERIAL CLOCK/AV	TRICK [L]	TRICK PLAY Ⓛ
S. DATA	SERIAL DATA	TRK. ENV	AUDIO TRACKING ENVEL OPE DETECT
S. DATA/A	SERIAL DATA / AUDIO	TU. AUDIO	TUNER AUDIO
S. PHOTO	SUPPLY PHOTO TRANSISTOR	TU. GND	TUNER GND
S.TAB [L]	SAFETY TAB SW ON Ⓛ	TU. V. IN	TUNER VIDEO SIGNAL INPUT
S/P/N	SECAM/PAL/NTSC	TU. VIDEO	TUNER VIDEO
SC IN	SERIAL CLOCK INPUT	TUN NOR IN	TUNER NORMAL INPUT
SC OUT	SERIAL CLOCK OUTPUT	TUN R	TUNER AUDIO (R)
SCK SELECT	SERIAL CLOCK SELECT	TUN. AUDIO IN	TUNER AUDIO INPUT
SEL OUT [L]	SELECT OUTPUT (L)	TUNER 12V	TUNER 12V
SEL OUT [R]	SELECT OUTPUT (R)	TUNER L	TUNER AUDIO (L)
SHUTTLE 1	SHUTTLE 1	TUNER V IN	TUNER VIDEO SIGNAL INPUT
SIF	SOUND INTERMEDIATE FREQUENCY	TUNER [L]	TUNER AUDIO (L)
SLMUT [H]	INPUT SELECT MUTE Ⓗ	TUNER [N]	TUNER AUDIO (NORMAL)
SLNID [+]	SOLENOID (+)	TUNER [R]	TUNER AUDIO (R)
SLNID [−]	SOLENOID (−)	TUNER. 12	TUNER 12V
SLW TR. MM	SLOW TRACKING MONO MULTI	TUOFF [H]	TUNER OFF Ⓗ
SLW TR. REF	SLOW TRACKING REFERENCE VOLTAGE	TV. AUDIO	TV AUDIO
		TV/VTR	TV/VTR
SNS. GND	SENSOR GND	TXTON [L]	TEXT ON Ⓛ
SOFT [H]	SOFT TAPE PLAY Ⓗ	U. REG45V	UNREGULATOR 45V
SOFT [H]/NORMAL	SOFT TAPE PLAY Ⓗ /NORMAL Ⓗ	UNREG	UNREGULATOR
SOLENOID ON [L]	SOLENOID ON Ⓛ	UNREG 19V	UNREGULATOR 19V
SP [H]	SP Ⓗ	V. REF	REFERENCE VOLTAGE
SP/L/SLP	SP/LP	V. EE [H]	VIDEO EE Ⓗ
SSS [L]	SLOW/STILL/STOP Ⓛ	V. EE [L]	VIDEO EE Ⓛ
STEREO LED	STEREO LED	VCO REF	REFERENCE OSCILLATOR
STEREO [H]	STEREO Ⓗ	VD. IN	VIDEO SIGNAL INPUT
STEREO [L]	STEREO Ⓛ	VD. OUT	VIDEO SIGNAL OUTPUT
STOP. PO	STOP POSITION	VIDEO EE [L]	VIDEO EE Ⓛ
STOP/5V	STOP POSITION/5V	VIDEO IN	VIDEO SIGNAL INPUT
STOP1/TAPE SEL	STOP1 POSITION/TAPE SELECT	VIDEO OUT	VIDEO SIGNAL OUTPUT
STOP1/PAL : ST	STOP 1 POSITION/PAL	VM	MOTOR VOLTAGE
STOP2. PO	STOP 2 POSITION	VM DOWN [L]	MOTOR VOLTAGE DOWN Ⓛ
STOP2 / S-TAB	STOP POSITION/SAFETY TAB SW	VSS	VERTICAL SYNC SIGNAL
STREO [H]	STEREO Ⓗ	VTR [H]	VTR Ⓗ
SUB BIAS	SUB BIAS	VTR. 12V	VTR 12V
SUB. SW	SUB SW	X IN	OSCILLATOR INPUT
SVHS CAS [L]	S-VHS CASSETTE Ⓛ	X OUT	OSCILLATOR OUTPUT
SW. 5. DET	SW 5V DETECT		
SYNC [L]	SYNC Ⓛ		
SYSCON 5V	SYSTEM CONTROL 5V		
SYSTEM	SYSTEM SW		
T-PHOTO	TAKE-UP PHOTO TRANSISTOR		
T-RL. PLS	TAKE-UP REEL PULSE		

INPUT/OUTPUT CHART FOR IC6001

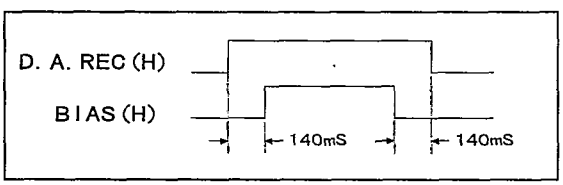
<table>
<tr><th>Pin Number</th><th>Input/Output</th><th>Port Name</th><th>Function</th></tr>
<tr><td>1</td><td>O</td><td>AUDIO DEF(H)</td><td>This port is low while Decoder IC is reset.</td></tr>
<tr><td>2</td><td>O</td><td>FORCE MONO(H)</td><td>This port is high while audio mode is set compisory monoraul mode.</td></tr>
<tr><td>3</td><td>I</td><td>AFC(S)</td><td>Tuner S curve input.</td></tr>
<tr><td>4</td><td>I</td><td>NORM/M1/BIL/M2
STEREO</td><td>This port is to indicate the receiving sound decoder on screen (OSD).
<table><tr><th>Input vlotage</th><th>OSD display</th></tr><tr><td>More than 4.2V</td><td>No indication</td></tr><tr><td>3.0V - 4.2V</td><td>MONO1</td></tr><tr><td>2.0V - 3.0V</td><td>BILINGUAL</td></tr><tr><td>0.8V - 2.0V</td><td>MONO1+2</td></tr><tr><td>Less than 0.8V</td><td>STEREO</td></tr></table></td></tr>
<tr><td>5</td><td>I</td><td>L6/U6/U4/U2/U2L</td><td>Cylinder unit (HI-FI/Normal) selection.
<table><tr><th>Input voltage</th><th>Cylinder</th><th>HI-FI/NORMAL</th></tr><tr><td>More than 4.2V</td><td>LDD 6CH</td><td>HI-FI</td></tr><tr><td>3.0V - 4.2V</td><td>UDD 6CH</td><td>HI-FI</td></tr><tr><td>2.0V - 3.0V</td><td>UDD 2CH
(No LP mode)</td><td>NORMAL</td></tr><tr><td>0.8V - 2.0V</td><td>UDD 2CH
(LP mode)</td><td>NORMAL</td></tr><tr><td>Less than 0.8V</td><td>UDD 4CH</td><td>NORMAL</td></tr></table></td></tr>
<tr><td>6</td><td>I</td><td>NORM/SER/T1/T2</td><td>Normal/Service/Test1/Test2 mode selection.
<table><tr><th>Input voltage</th><th>Mode</th></tr><tr><td>More than 4.0V</td><td>Normal</td></tr><tr><td>2.5V - 4.0V</td><td>Service</td></tr><tr><td>1.0V - 2.5V</td><td>Test1</td></tr><tr><td>Less than 1.0V</td><td>Test2</td></tr></table></td></tr>
<tr><td>7</td><td>I</td><td>S-PHOT</td><td>This port receives 2.4V when Supply photo sensor detects the tape end.</td></tr>
<tr><td>8</td><td>I</td><td>T-PHOT</td><td>This port receives 2.4V when Take-up photo sensor detects the tape beginning.</td></tr>
<tr><td>9</td><td>I</td><td>TRACKING ENVE</td><td>Playback envelope input for tracking adjustment.</td></tr>
<tr><td>10</td><td>I</td><td>ABS.NORM(L)</td><td>HI-FI audio mode selection.</td></tr>
<tr><td>11</td><td>O</td><td>CURRENT LIMIT</td><td>Capstan motor current limitter output.</td></tr>
<tr><td>12</td><td>O</td><td>REC CUR</td><td>AI recording current control and Playback AI picture VR control.</td></tr>
<tr><td>13</td><td>O</td><td>ART.V/H/N</td><td>This port supplies artificial vertical sync signal to stabilize the picture in special playback mode.</td></tr>
<tr><td>14</td><td>I</td><td>REMOCON</td><td>Remote contoroll signal input.</td></tr>
<tr><td>15</td><td>O</td><td>ROTARY.SW</td><td>Rotary switching signal output.</td></tr>
<tr><td>16</td><td>O</td><td>H.A.SW</td><td>Head amp switching signal output.</td></tr>
<tr><td>17</td><td>I</td><td>ENVE.SLECT</td><td>This port receives the playback envelope signal level to select the video head in special playback mode.</td></tr>
<tr><td>18</td><td>O</td><td>VIDEO.H.SW</td><td>Video head switching signal output.</td></tr>
<tr><td>19</td><td>O</td><td>AUDIO.H.SW</td><td>Audio head switching signal output.</td></tr>
<tr><td>20</td><td>O</td><td>REC(H)</td><td>Video/audio signal recording/playback control.</td></tr>
<tr><td>21</td><td>O</td><td>D.REC(H)</td><td>Video signal recording on/off control.</td></tr>
<tr><td>22</td><td>O</td><td>C.EMPHA(H)</td><td>This port supplies high during a certain time from starting the recording to control the HI-FI audio recording current.</td></tr>
<tr><td>23</td><td>O</td><td>D.FM.REC(H)</td><td>HI-FI audio recording on/off control.</td></tr>
<tr><td>24</td><td>O</td><td>VIDEO.EE(L)</td><td>This port is low during EE mode.</td></tr>
<tr><td>25</td><td>O</td><td>TRICK(L)</td><td>This port is low during special playback (CUE,REV,SLOW,STILL) mode.</td></tr>
<tr><td>26</td><td>O</td><td>D.A.REC(H)</td><td>DC voltage control for recording mode.
 
</td></tr>
<tr><td>27</td><td>O</td><td>BIAS(H)</td><td></td></tr>
<tr><td>28</td><td>O</td><td>FM.MUTE(H)</td><td>This port is high during special playback (CUE,REV,SLOW,STILL) mode.</td></tr>
<tr><td>29</td><td>O</td><td>PB/TUN/LINE</td><td>Normal audio switching control.</td></tr>
<tr><td>30</td><td>O</td><td>FULL.ERASE(H)</td><td>Full erase on/off control.
ON : High
OFF : Low</td></tr>
</table>

Fig. MP1

Pin Number	Input/Output	Port Name	Function
31	I	POS.SW3	
32	I	POS.SW2	
33	I	POS.SW1	

P. SW 3	P. SW 2	P. SW 1	Position (Mode) Name
O	O	O	EJECT
O	O	I	CASSETTE DOWN
O	I	O	REV,REV SLOW
O	I	I	MID (LOADING/UNLOADING)
I	O	O	PLAY/REC,STILL/PAUSE,CUE
			FWD SLOW,STOP3*1
I	O	I	STOP
I	I	O	FF/REW
I	I	I	INTERMEDIATE

(*1) The Pinch Roller is on the Capstan motor shaft.

Pin Number	Input/Output	Port Name	Function
34	-	GND	GND.
35	-	GND	GND.
36	I	16M.START(H)	Clock source selection at starting reset.
37	-	5V(D)	Digital 5V.
38	I	16MHz.IN	Oscillator input.
39	O	16MHz.OUT	Oscillator output.
40	-	GND(OSC)	Oscillator GND.
41	I	32KHz.IN	Oscillator input.
42	O	32KHz.OUT	Oscillator output.
43	I	RESET(L)	This port is low while IC6001 is reset.
44	O	FIP(L)	FIP on/off control.
45	O	FIP/OSD CS	FIP driver and OSD microprocessor chip selection. FIP driver chip is selected : Low OSD microprocessor chip is selected : High
46	O	CH CHANGE(H)	After operating channel up/down, audio carrier of the new channel is supplied to pin 59 and this port supplies high to define the audio carrier.
47	O	CH START(H)	Audio carrier automatic detecting start edge output in tuner preset.
48	O	AAA OFF(H)	This port supplies high during audio IC automatic adjustment.
49	O	AI MES(H)	This port is high when measuring the head and tape condition to determine the optimum recording current before starting the AI recording.
50	O	HALF WAVE(H)	Capstan driver selection.
51	O	P.OFF(H)	Power on/off control.
52	O	FF/REW(L)	This port supplies low during FF and REW modes.
53	O	PB AI1(H)	AI playback control.
54	O	PB AI2(H)	AI playback control.
55	O	UNLOADING(H)	This port supplies high during the mechanism is unloaded.
56	O	LOADING(H)	This port supplies high during the mechanism is loaded.
57	O	SP(H)	This port supplies high during SP mode.
58	O	SLEEP(L)	This port supplies low during super power save mode.
59	O	PAL-I/BG/DK	System 4. Refer to Fig. 4.
60	O	SECAM/PAL	System 2. Refer to Fig. 4.
61	O	NTSC(L)	System 5. Refer to Fig. 4.
62	O	PAL/MESECAM	System 1. Refer to Fig. 4.
63	I/O	EDITTRIG(L)	Syncronized editing control.
64	I/O	PREROLL(H)	
65	O	5P/T2.DATA.OUT	Edit 5P serial data output.
66	I	5P/T2.DATA.IN	Edit 5P serial data input.
67	O	5P/T2.CLOCK	Edit 5P serial data clock.
68	O	T-BUS/IC.OUT	OSD microprocessor and FIP driver serial data output.
69	I	T-BUS/IC.IN	OSD microprocessor and FIP driver serial data input.
70	O	T-BUS/IC.CLK	OSD microprocessor and FIP driver serial clock output.
71	O	IIC.CLOCK	Tuner and HI-FI audio IC serial clock output.
72	I/O	IIC.DATA	Tuner and HI-FI audio IC serial data input/output.
73	O	125Hz	Oscillator output for main clock adjustment.
74	O	STANDBY(L)	This port supplies low during standby mode.
75	I	POWER FAIL(L)	Power failure detection.
76	O	CAP.R/F	Capstan rotation direction control. Reverse : High Forward : Low
77	O	CAP.ET	Capstan torque control.
78	O	CYL.ET	Cylinder torque control.
79	I	S.REEL.PULSE	Supply reel pulse input.
80	I	T.REEL.PULSE	Take-up reel pulse input.
81	I	STAB(L)	This port receives low while the cassette tape with safety tab is inserted.
82	I	POWER KEY(H)	Power on/off key input.

Fig. MP2

Pin Number	Input/Output	Port Name	Function
83	I	SHORT DN	DC voltage (BIAS (H)) detection. When detecting High at BIAS (H) during BIAS (H) is set to except high, complsory power is turned off (Self test indication display F08). When detecting Low at BIAS (H) during BAIS (H) is set to high, complsory power is turned off (Self test indication display F07).
84	I	Csync	C sync signal (Built in sync separation circuit) input.
85	I	CAP.FG	Capstan FG input.
86	I	CYL.PFG	Cylinder PFG input.
87	I	SECAM24(H)	Video head selection input.
88	-	GND	GND.
89	O	OREF	Op amp output for 1/2 VDD reference.
90	I	IREF	Op amp input for 1/2 VDD reference.
91	I	CTL.HEAD(-)	Control signal (-) input.
92	I	CTL.HEAD(+)	Control signal (+) input.
93	O	CTL.AMP.SW	Control amp switching output.
94	I	CTL.AMP.IN	Control amp input.
95	I	CTL.AMP.REF	Control amp reference input.
96		CTL.AMP.GND	Control amp GND.
97	O	PB.CTL.OUT	Control amp output.
98	-	5V(A)	Analog 5V.
99	-	5V(AD)	5V.
100	I	CH END(H)	This port receives High when detecting audio carrier during tuner preset.

Fig. MP3

	System 1 *1 Pin 62	System 2 Pin 60	System 4 Pin 59	System 5 Pin 61	MONO (H) Pin 2
MODE 1	MESECAM (H) H : MESECAM L : PAL	——— Low is fixed.	——— Low is fixed.	NTSC (L) H : 50Hz L : 60Hz	——— Low is fixed.
MODE 2	MESECAM (H) H : MESECAM L : PAL	——— Low is fixed.	——— Low is fixed.	NTSC (L) H : 50Hz L : 60Hz	MONO (H) *3 H : MONO ON L : MONO OFF
MODE 3	——— Low is fixed.	——— Low is fixed.	——— Low is fixed.	NTSC (L) H : 50Hz L : 60Hz	MONO (H) *3 L : NICAM AUTO H : NICAM OFF
MODE 4	MES/AUTO/PAL H : MESECAM Z : AUTO L : PAL	——— Low is fixed.	I/DK/BG H : I Z : DK L : BG	NTSC (L) H : 50Hz L : 60Hz	MONO (H) *3 H : MONO ON L : MONO OFF
MODE 5	MES/AUTO/PAL H : MESECAM Z : AUTO L : PAL	SEC/AUTO/PAL *2 H : SECAM Z : AUTO L : PAL	L/BG H : L L : BG	NTSC (L) H : 50Hz L : 60Hz	MONO (H) *3 H : MONO ON L : MONO OFF

Z : High impedance

*1 : High impedance is set during NTSC playback mode. High is set compulsory during full screen display except NV-HD680 series.
(System 1 is set to high and system 5 is set to low during full screen and NTSC playback)

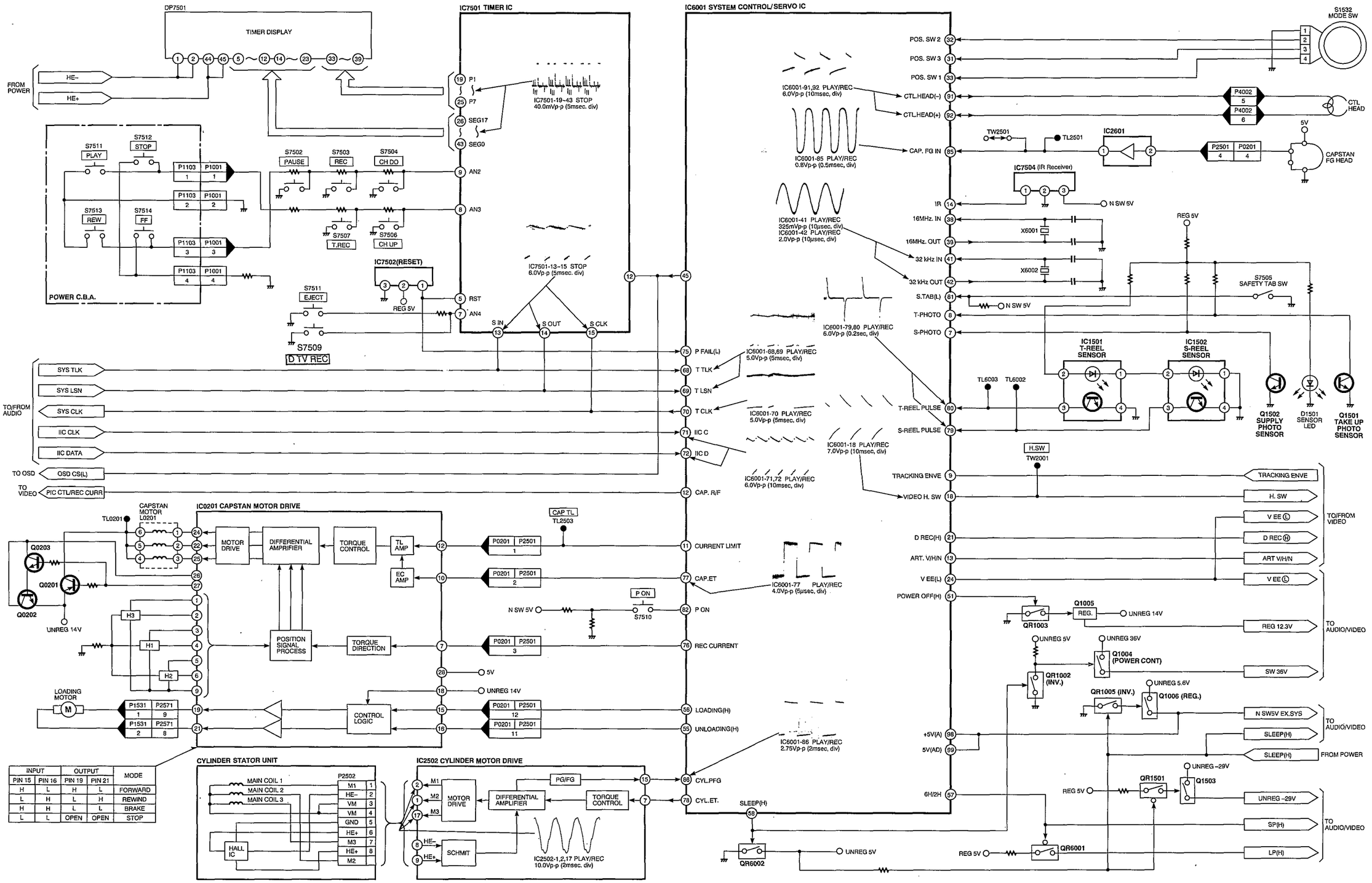
*2 : Low is set during NTSC playback.

*3 : It follows OSD.

Fig. MP4

MEMO

3-2. SYSCON/SERVO/TIMER SECTION IN MAIN BLOCK DIAGRAM



INPUT		OUTPUT		MODE
PIN 15	PIN 16	PIN 19	PIN 21	
H	L	H	L	FORWARD
L	H	L	H	REWIND
H	H	L	L	BRAKE
L	L	OPEN	OPEN	STOP

3-3. AUDIO/VIDEO SECTION IN MAIN BLOCK DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

JK4901,JK4902	
GND	21
VIDEO INPUT	20
VIDEO OUT	19
GND	18
GND	17
BLANKING	16
RED	15
GND	14
GND	13
———	12
GREEN	11
———	10
GND	9
PB (H) IN	8
BLUE	7
AUDIO IN CH1 (L)	6
GND (A)	5
GND (A)	4
AUDIO OUT CH1 (L)	3
AUDIO IN CH2 (R)	2
AUDIO OUT CH2 (R)	1

JK4901
AV1

JK4902
AV2
(DECODER/EXT)

AMP
Q3906,3907

TW3002

Q4905
AMP

Q3903

R4915

QR4906

AMP
Q3904
Q3905

Q4904
AMP

IC4903

V EE (L) — FROM SYSTEM CONTROL

UNREG 14V

R4914

QR4905

RGB OFF (H)

CPB (H)

IC4901

VB
VA
TV (H)
DEB
DEA
AV1 PB (H)
FROM OSD

QR4907

TO VIDEO MAIN ← V IN TO Y/C

FROM SYSTEM CONTROL
SLEEP (H)
LP (H)
MUTE (H)

QR4901

QR4904

UNREG 14V

FROM OSD ← V OUT FROM OSD

Q3908
AMP

Q4003

QR4002
AMP

IC4001

IC4902

TUNER AUDIO → TO TUNER

TO/FROM AC HEAD
P4002 3
P4002 4

REC
PB

TO TUNER ← TUNER VIDEO

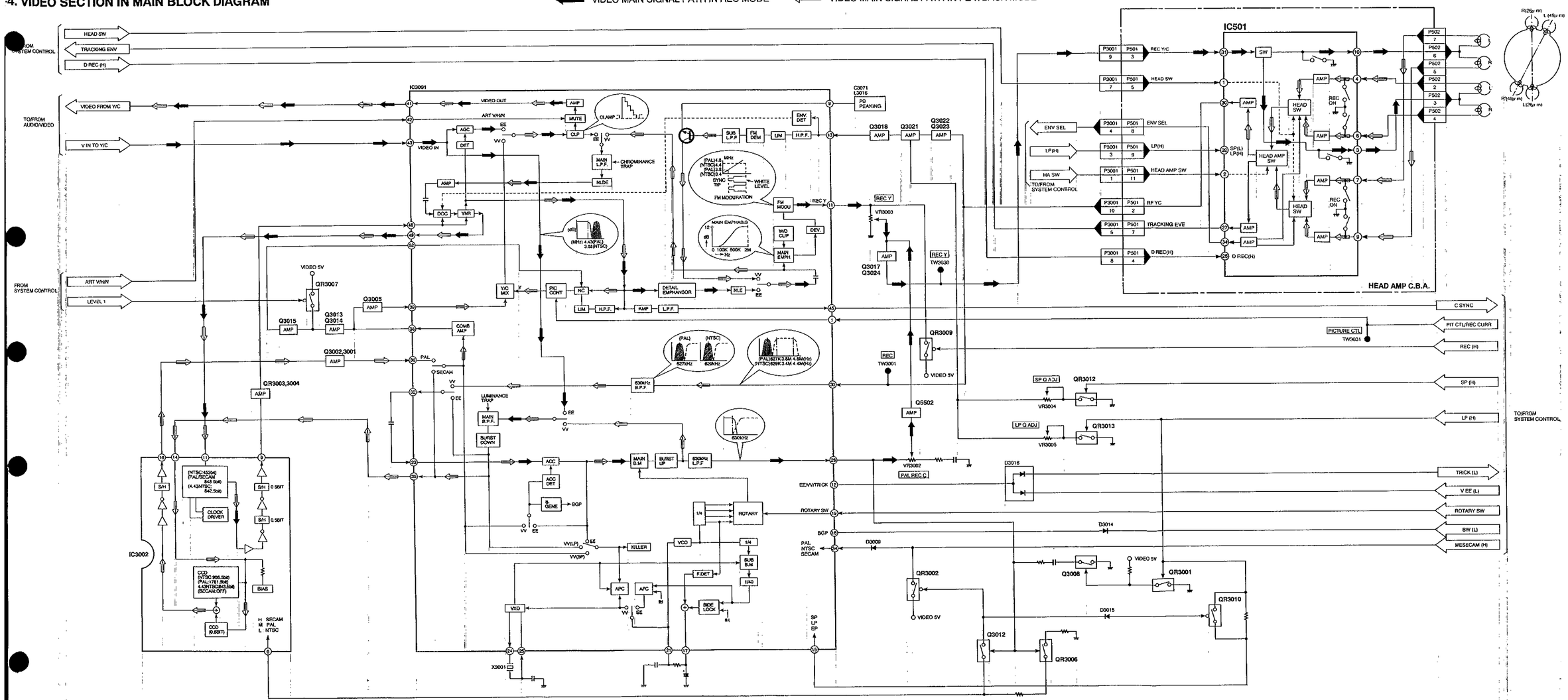
IC4904

FROM TUNER
TUNER AUDIO
TUNER VIDEO

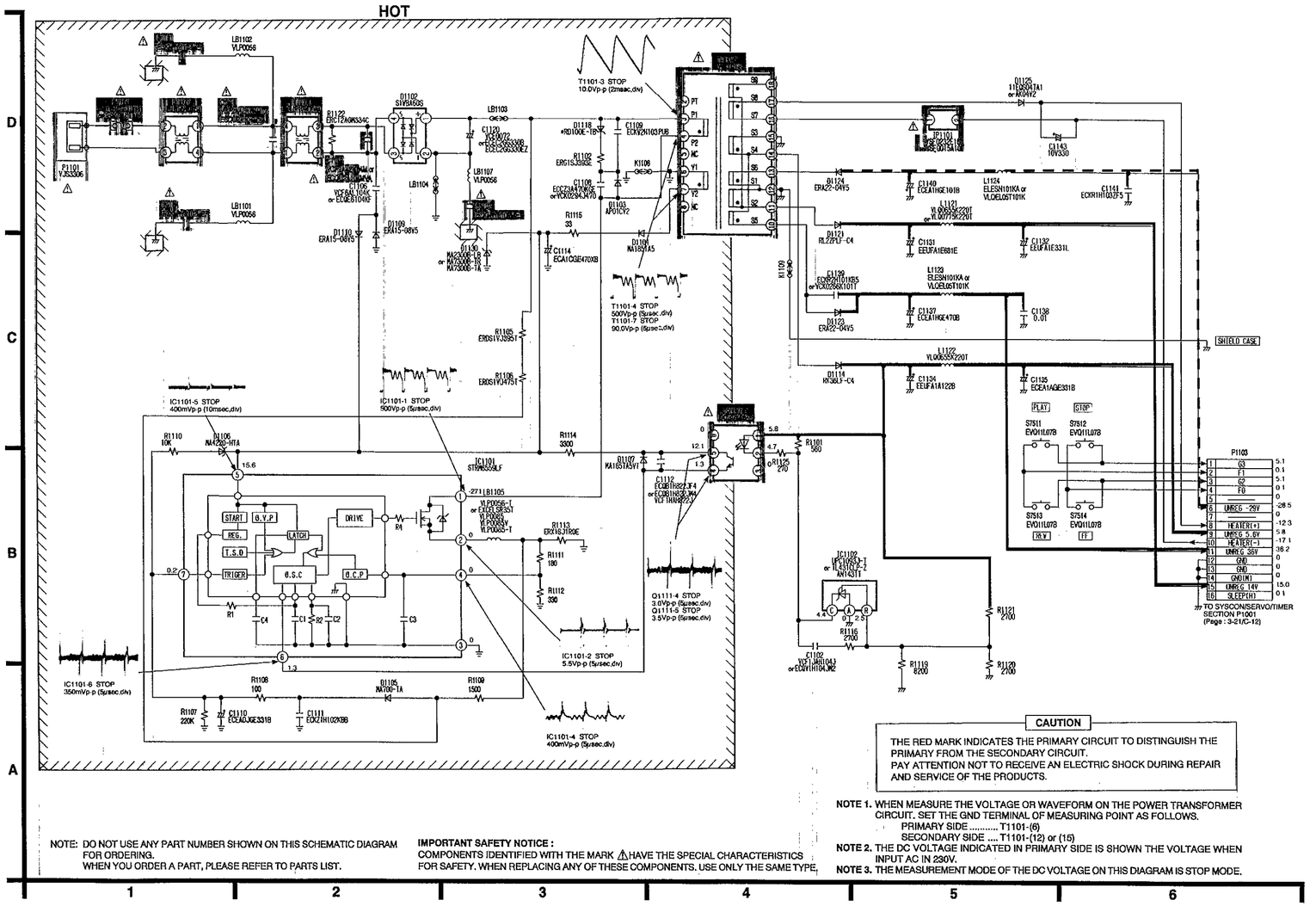
4. VIDEO SECTION IN MAIN BLOCK DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE

VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE



3-5. POWER SCHEMATIC DIAGRAM


HOT
CAUTION
THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.
NOTE 1. WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.
PRIMARY SIDE ..... T1101-(6)
SECONDARY SIDE .... T1101-(12) or (15)
NOTE 2. THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS SHOWN THE VOLTAGE WHEN INPUT AC IN 230V.
NOTE 3. THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.
IMPORTANT SAFETY NOTICE :
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.
TO SYSCON/SERVO/TIMER SECTION P1001 (Page : 3-21/C-12)
SHIELD CASE

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC1001								IC1501								IC1502			
MODE	1	2	3	4					1	2	3	4					1	2	3	4
STOP	14.9	14.6	0	1.1					1.1	2.2	4.9	0					0	1.1	0.7	0
PLAY	14.7	14.6	0	1.1					1.1	2.2	4.9	0					0	1.1	0.1	0
REC	14.7	14.6	0	1.1					1.1	2.2	0	0					0	1.1	0.1	0
F.F.	14.3	14.2	0	1.1					1.1	2.3	2.4	0					0	1.1	2.5	0
REW	14.3	14.2	0	1.1					1.1	2.3	2.4	0					0	1.1	2.7	0

REF. NO.	IC2501							
MODE	1	2	3	4	5	6	7	8
STOP	2.4	2.4	2.4	0	0.1	3.7	3.7	4.9
PLAY	2.4	2.4	2.4	0	0.1	3.7	3.7	4.9
REC	2.4	2.4	2.4	0	0.1	3.7	3.7	4.9
F.F.	2.4	2.4	2.4	0	0.1	3.7	3.7	4.9
REW	2.4	2.4	2.4	0	0.1	3.7	3.7	4.9

REF. NO.	IC2502																	
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
STOP	14.5	14.8	0	0.4	0	2.5	2.4	1.1	1.1	2.7	5.0	3.7	3.7	3.7	0.7	14.6	14.1	0
PLAY	14.5	14.3	0	0.4	0	2.5	2.4	1.1	1.1	2.7	5.0	3.6	3.7	3.7	1.0	14.6	14.4	0
REC	14.5	14.8	0	0.4	0	2.5	2.4	1.1	1.1	2.7	5.0	3.6	3.7	3.7	1.2	14.6	14.4	0
F.F.	13.4	14.4	0	0.4	0	2.5	2.4	1.1	1.1	2.7	5.0	3.7	3.7	3.7	0.8	14.4	14.4	0
REW	13.8	13.9	0	0.4	0	2.5	2.4	1.1	1.1	2.7	5.0	3.7	3.7	3.7	0.8	14.2	14.4	0

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	4.6	2.6	4.9	2.4	4.9	4.9	4.5	2.0	0	0	0	0	0	0	0	0	3.4	0	0
PLAY	0	4.6	2.6	4.9	2.4	4.9	4.9	4.5	2.6	0	4.7	2.8	0	4.9	4.6	0	0	4.2	4.6	0
REC	0	4.6	2.6	4.9	2.4	4.9	4.9	4.7	2.1	0	4.7	2.5	0	4.9	3.5	0	0	3.4	0	4.6
F.F.	0	4.6	2.6	4.9	2.4	4.9	4.9	4.7	0.9	0	4.9	1.5	0	4.9	0	0	0	2.5	0	0
REW	0	4.6	2.6	4.9	2.4	4.9	4.9	4.7	0.7	0	4.9	1.5	0	4.9	0	0	0	3.6	0	0

REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	0	0	0	0	0	0	0	0	4.6	0	0	0	0	4.6	4.6	2.1	2.1	0
PLAY	0	0	0	4.6	4.6	0	0	0	4.6	0	4.6	0	0	0	0	4.6	4.6	–	–	0
REC	4.6	0	4.6	0	4.6	4.6	4.6	0	0	0	4.6	0	0	0	0	4.6	4.6	–	–	0
F.F.	0	0	0	0	4.6	0	0	0	0	0	4.6	4.6	0	0	0	4.6	4.6	–	–	0
REW	0	0	0	0	4.6	0	0	0	0	0	4.6	4.6	0	0	0	4.6	4.6	–	–	0

REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	1.2	1.4	4.6	0	3.6	0	0	0	0	0	0	4.6	0	0	0	0	4.6	4.6	0	0
PLAY	1.2	1.9	4.6	0	4.5	0	0	0	0	0	0	4.6	4.6	0	0	0	4.6	4.6	0	0
REC	1.2	1.4	4.6	0	2.3	0	0	0	0	0	0	4.6	0	0	0	0	4.6	4.6	0	0
F.F.	1.2	1.4	4.6	0	2.3	0	0	0	0	4.5	0	0	0	0	0	0	4.6	4.6	0	0
REW	0	1.4	0	0	2.5	0	0	0	0	4.5	0	0	0	0	0	0	4.6	4.6	0	0

REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	4.6	0	4.9	0	4.9	4.8	4.8	4.5	4.6	4.3	3.2	3.2	2.3	4.6	4.9	0	0	2.4	4.9	5.0
PLAY	4.6	0	4.9	0	4.9	4.8	4.8	4.7	4.6	4.7	3.2	3.2	2.3	4.6	4.9	0	2.4	2.4	4.9	4.9
REC	4.6	0	4.9	0	4.9	4.8	4.8	4.5	4.4	4.5	3.2	3.2	2.3	4.6	4.9	0	2.4	2.4	5.0	0
F.F.	4.6	0	4.8	0	4.8	4.8	4.8	4.6	4.4	4.8	3.2	3.2	0	4.6	4.9	0	4.6	2.4	2.8	2.3
REW	4.6	0	4.8	0	4.8	4.8	4.8	4.6	4.6	4.6	3.2	3.2	2.3	4.6	4.9	0	4.6	2.4	2.3	2.1

REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	0	0	0.2	0.3	2.4	1.4	0	0	2.4	2.4	0	0	0	2.4	2.4	0	2.4	4.9	4.9	0.1
PLAY	4.9	0	0.2	0.3	2.4	0.7	0	0	2.4	2.4	0	0	0	2.4	2.4	0	2.4	4.9	4.9	0.1
REC	0	0	4.6	0.3	2.4	1.0	0	0	2.4	2.4	0	0	0	2.4	2.4	0	2.4	4.9	4.9	0.1
F.F.	0	0	0.2	0.3	1.5	1.2	0	0	2.4	2.4	0	0	0	2.4	2.4	0	2.4	4.9	4.9	0.1
REW	0	0	0.2	0.3	2.4	1.1	0	0	2.4	2.4	0	0	0	2.4	2.4	0	2.4	4.9	4.9	0.1

SYSTEM CONTROL & SERVO TRANSISTORs DC VOLTAGE CHART (SP MODE)

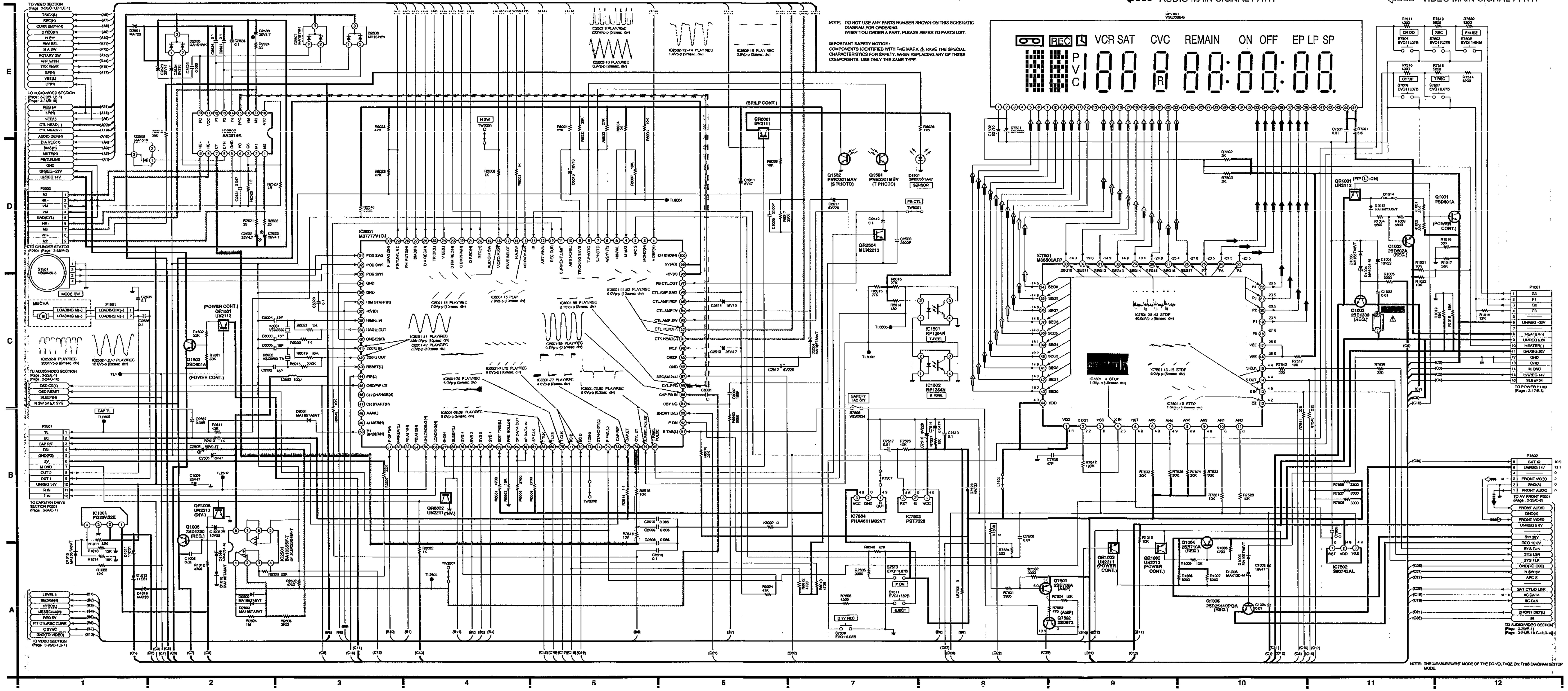
REF. NO.	Q1001			Q1002			Q1003			Q1004			Q1005			Q1006		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	-28.4	-28.4	-27.7	-12.4	-12.2	-11.6	4.9	5.6	5.6	36.0	36.0	35.3	12.3	13.4	12.9	4.9	5.6	5.6
PLAY	-29.0	-28.9	-28.4	-12.8	-12.8	-12.0	4.9	5.6	5.6	36.3	36.4	35.5	12.3	13.0	12.9	4.9	5.6	5.6
REC	-29.1	-29.1	-28.4	-12.6	-12.4	-11.8	4.9	5.6	5.6	36.5	36.5	35.8	12.3	13.2	12.9	4.9	5.6	5.6
F.F.	-29.9	-29.2	-28.7	-12.9	-12.8	-12.3	4.9	5.6	5.6	37.0	37.1	36.5	12.3	12.8	12.9	4.9	5.6	5.6
REW	-29.9	-29.2	-29.4	-13.2	-12.8	-12.2	4.9	5.6	5.6	36.9	36.8	36.2	12.3	12.8	12.9	4.9	5.6	5.6

REF. NO.	Q1501			Q1502			Q1503			QR1001			QR1002			QR1003		
MODE	+	-		+	-		E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.7	0		4.9	0		-28.4	-28.4	-27.7	4.9	4.8	0	0	+0	4.6	0	12.9	0
PLAY	4.7	0		4.9	0		-29.1	-29.1	-28.4	4.9	4.8	0	0	0	4.6	0	12.9	0
REC	4.7	0		4.9	0		-29.1	-29.1	-28.4	4.9	4.8	0	0	0	4.6	0	12.9	0
F.F.	4.7	0		4.9	0		-29.7	-29.8	-29.1	4.9	4.8	0	0	0	4.6	0	12.9	0
REW	4.7	0		4.9	0		-30.0	-30.0	-29.9	4.9	4.8	0	0	0	4.6	0	12.9	0

REF. NO.	QR1005			QR1501			QR8001			QR8002								
MODE	E	C	B	E	C	B	E	C	B	E	C	B						
STOP	0	5.6	0	4.9	4.9	0	5.0	0.2	4.7	0	0	4.6						
PLAY	0	5.6	0	4.9	4.9	0	5.0	0.2	4.7	0	0	4.6						
REC	0	5.6	0	4.9	4.9	0	5.0	0.2	4.7	0	0	4.6						
F.F.	0	5.6	0	4.9	4.9	0	5.0	0.2	4.7	0	0	4.6						
REW	0	5.6	0	4.9	4.9	0	5.0	0.2	4.7	0	0	4.6						

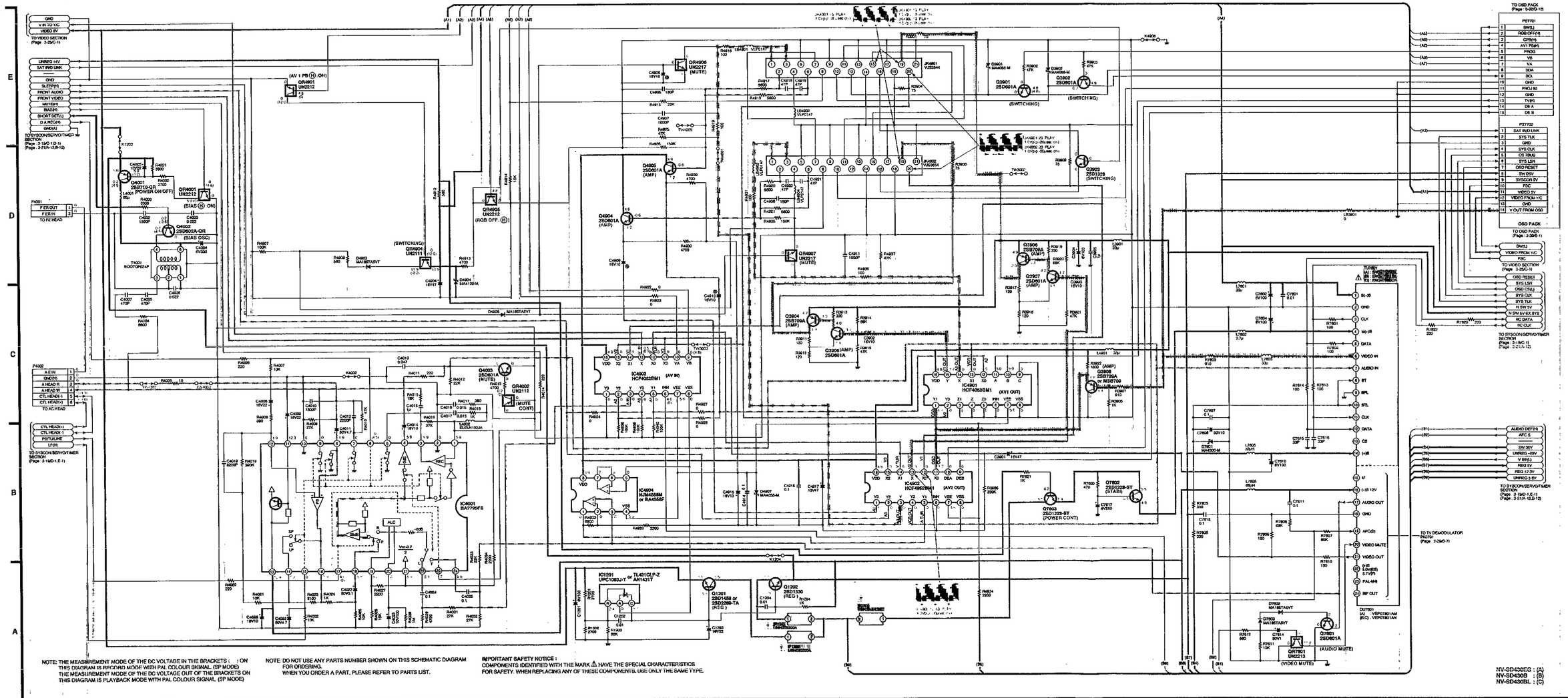
3-6. SYSCON/SERVO/TIMER SECTION IN MAIN SCHEMATIC DIAGRAM

CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
SEGMENT CONTROL SIGNAL PATH
AUDIO MAIN SIGNAL PATH
GRID CONTROL SIGNAL PATH
VIDEO MAIN SIGNAL PATH


NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.
IMPORTANT SAFETY NOTICE: COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.
IC6001 M37777V1CJ
IC2502 AN3814K
IC7501 M38500AFP
DP7501 VSL0506-B
VCR SAT CVC REMAIN ON OFF EP LP SP
IC1001 PQ20VB2E
IC2501 BA10358F-T or NJM2904M-T
IC1501 RP1354N T-REEL
IC1502 RP1354N S-REEL
IC7504 PNA4611M02VT
IC7503 PST7028
IC7502 S80743AL
TO VIDEO SECTION
TO AUDIO/VIDEO SECTION
TO CYLINDER STATOR
TO CAPSTAN DRIVE SECTION P0201
TO POWER P1103
TO AV FRONT P8501

3-7. AUDIO/VIDEO SECTION IN MAIN SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE — VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE — AUDIO MAIN SIGNAL PATH IN REC MODE — AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS : ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

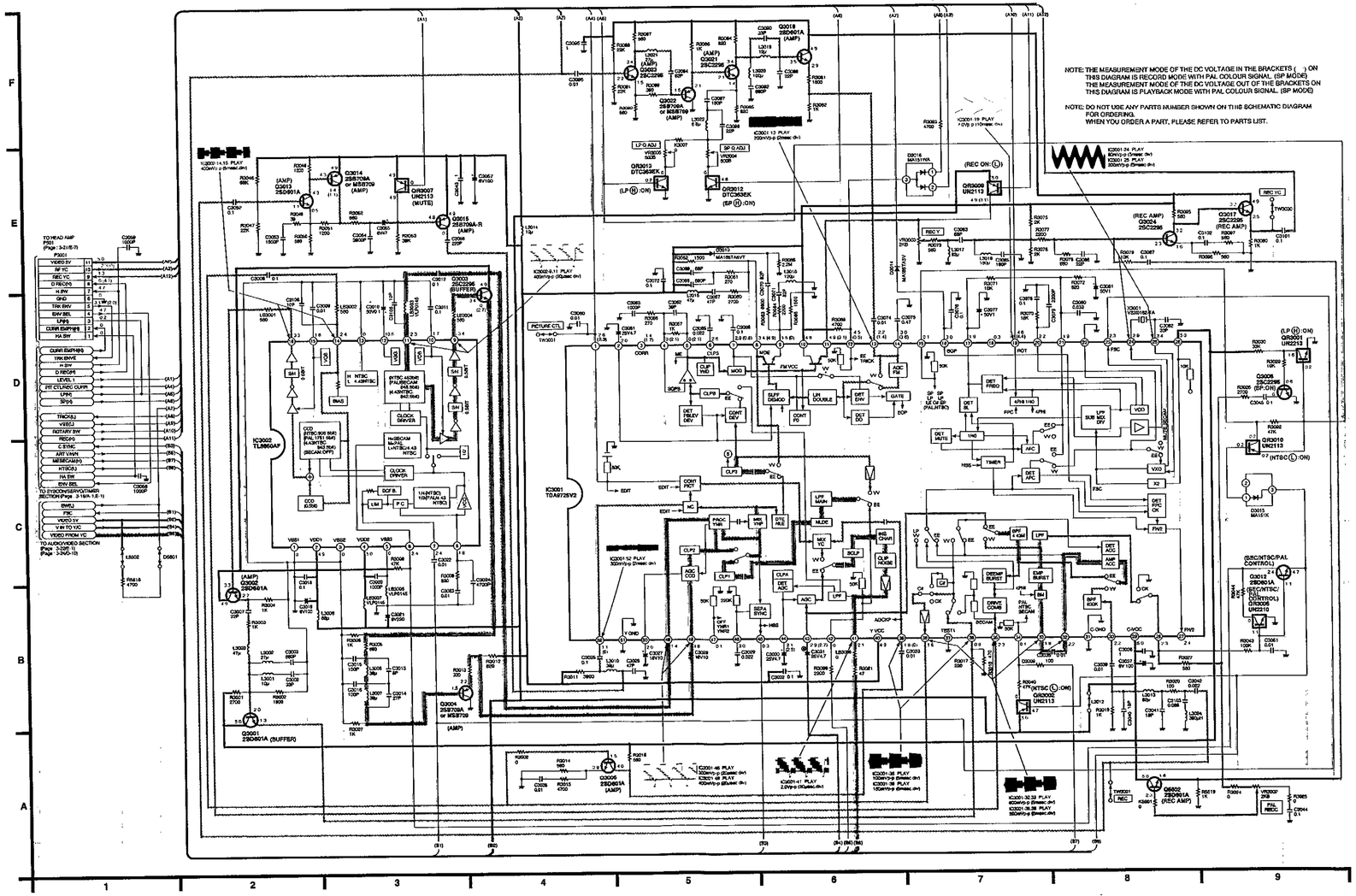
IMPORTANT SAFETY NOTICE :
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NV-SD430EG : (A)
NV-SD430B : (B)
NV-SD430BL : (C)

3-8. VIDEO SECTION IN MAIN SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE

VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE



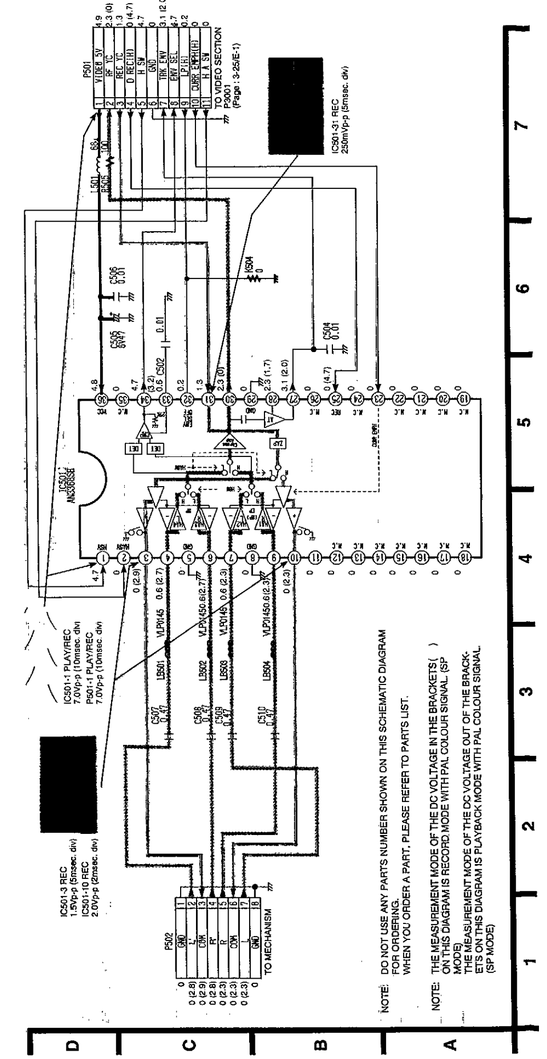
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-9. HEAD AMP SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

VIDEO MAIN SIGNAL PATH IN REC MODE



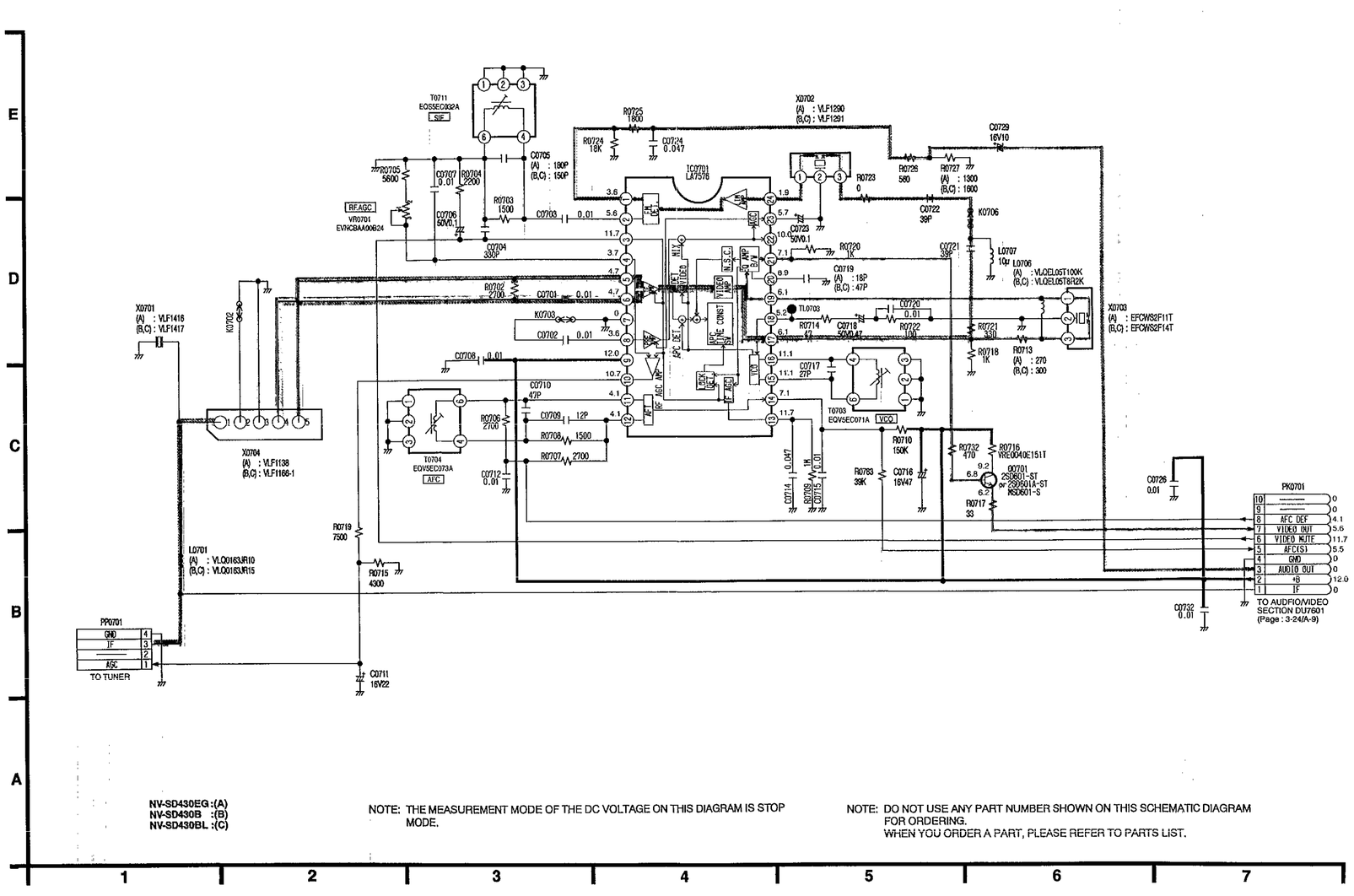
NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

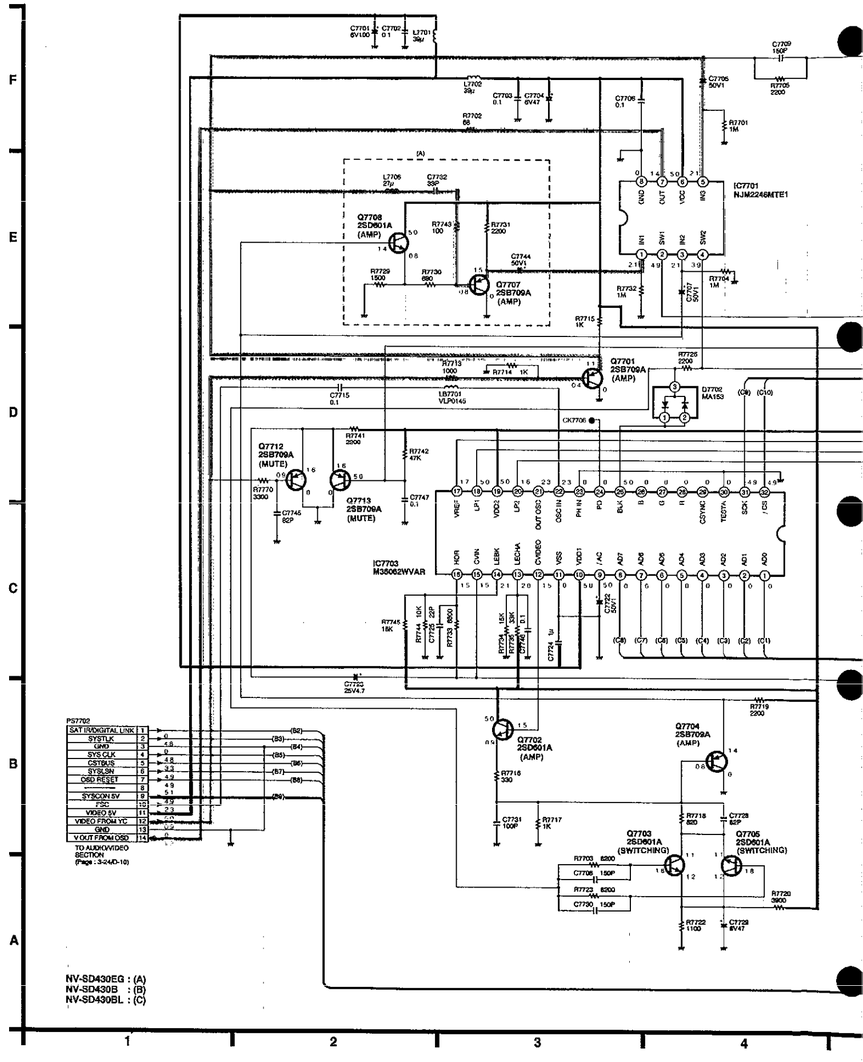
3-10. TV DEMODULATOR SCHEMATIC DIAGRAM

AUDIO MAIN SIGNAL PATH

VIDEO MAIN SIGNAL PATH

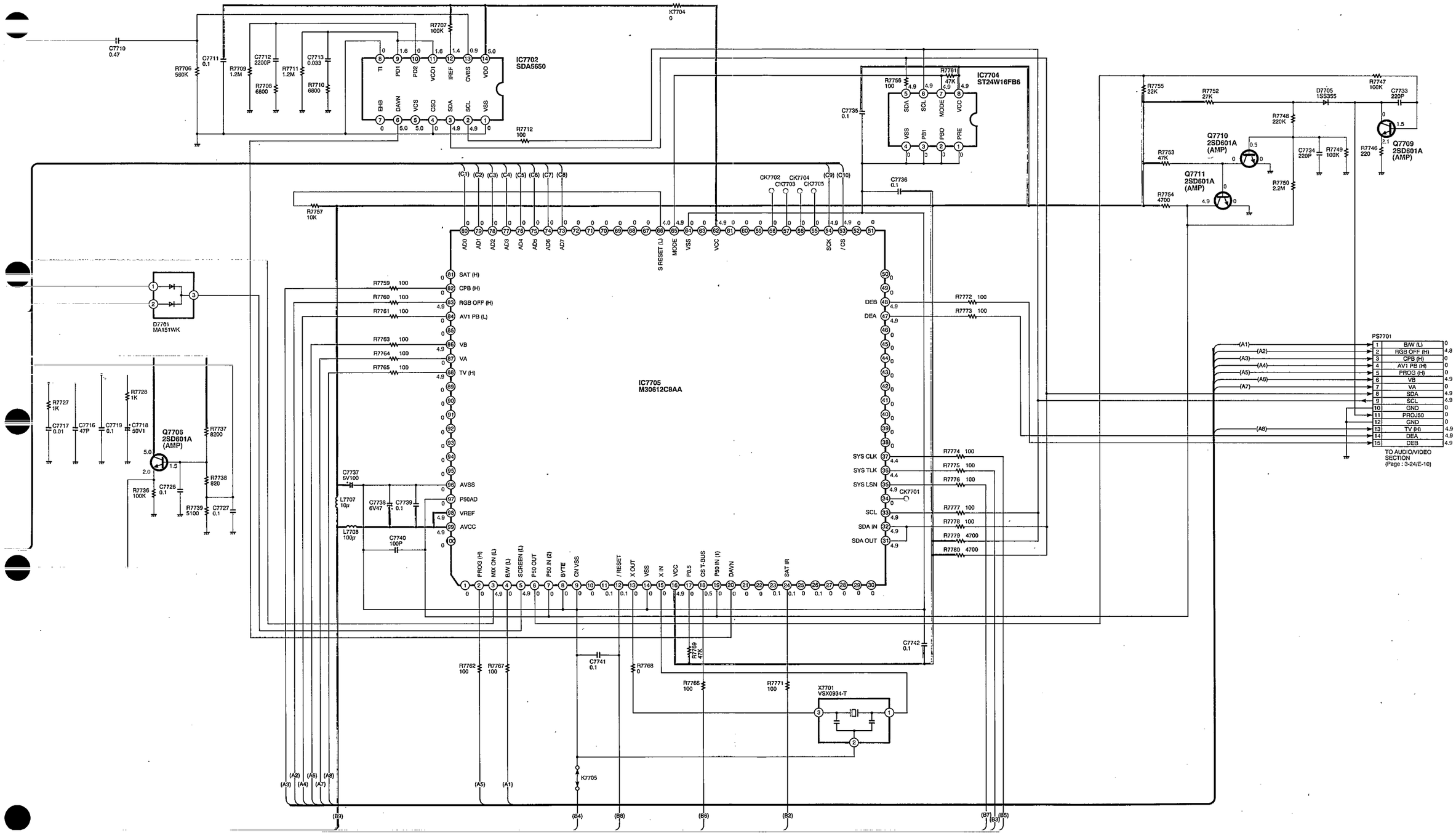


3-11. OSD PACK SCHEMATIC DIAGRAM



VIDEO MAIN SIGNAL PATH IN REC MODE

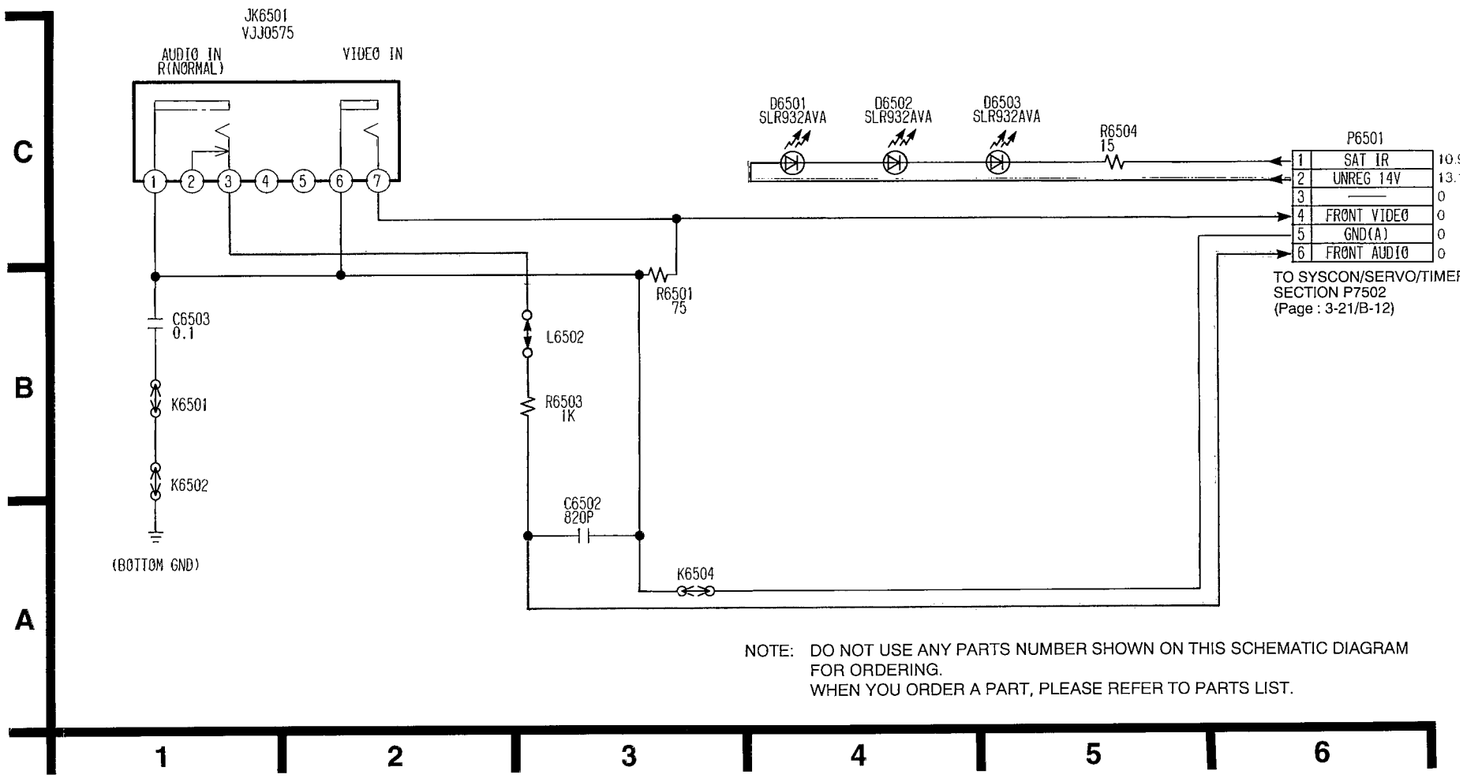
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE



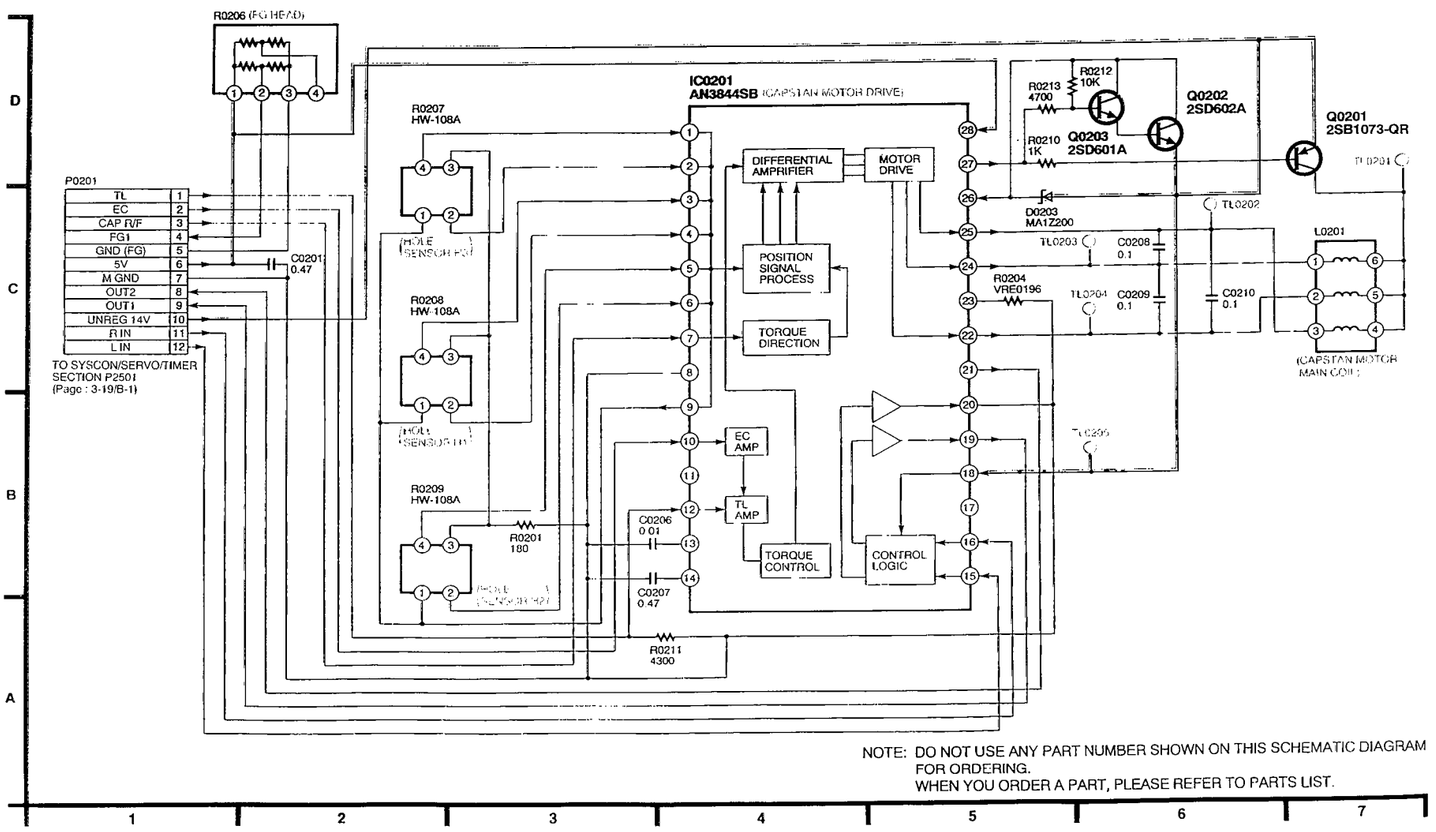
NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

VIDEO MAIN SIGNAL PATH
AUDIO MAIN SIGNAL PATH



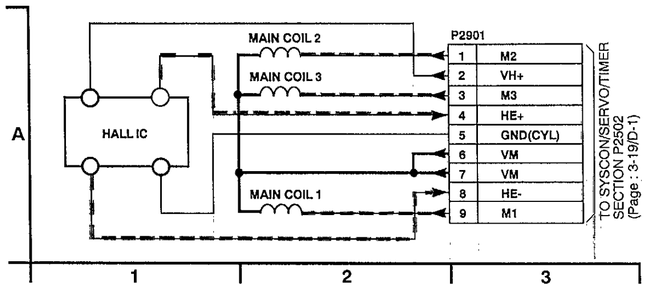
NOTE: DO NOT USE ANY PARTS NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.



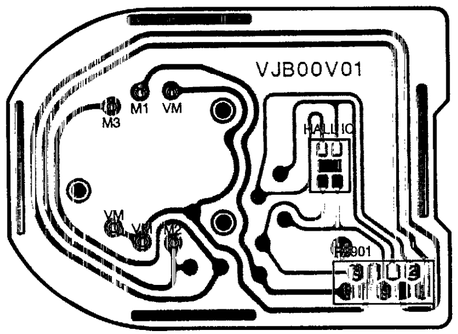
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-14. CYLINDER STATOR UNIT SCHEMATIC DIAGRAM

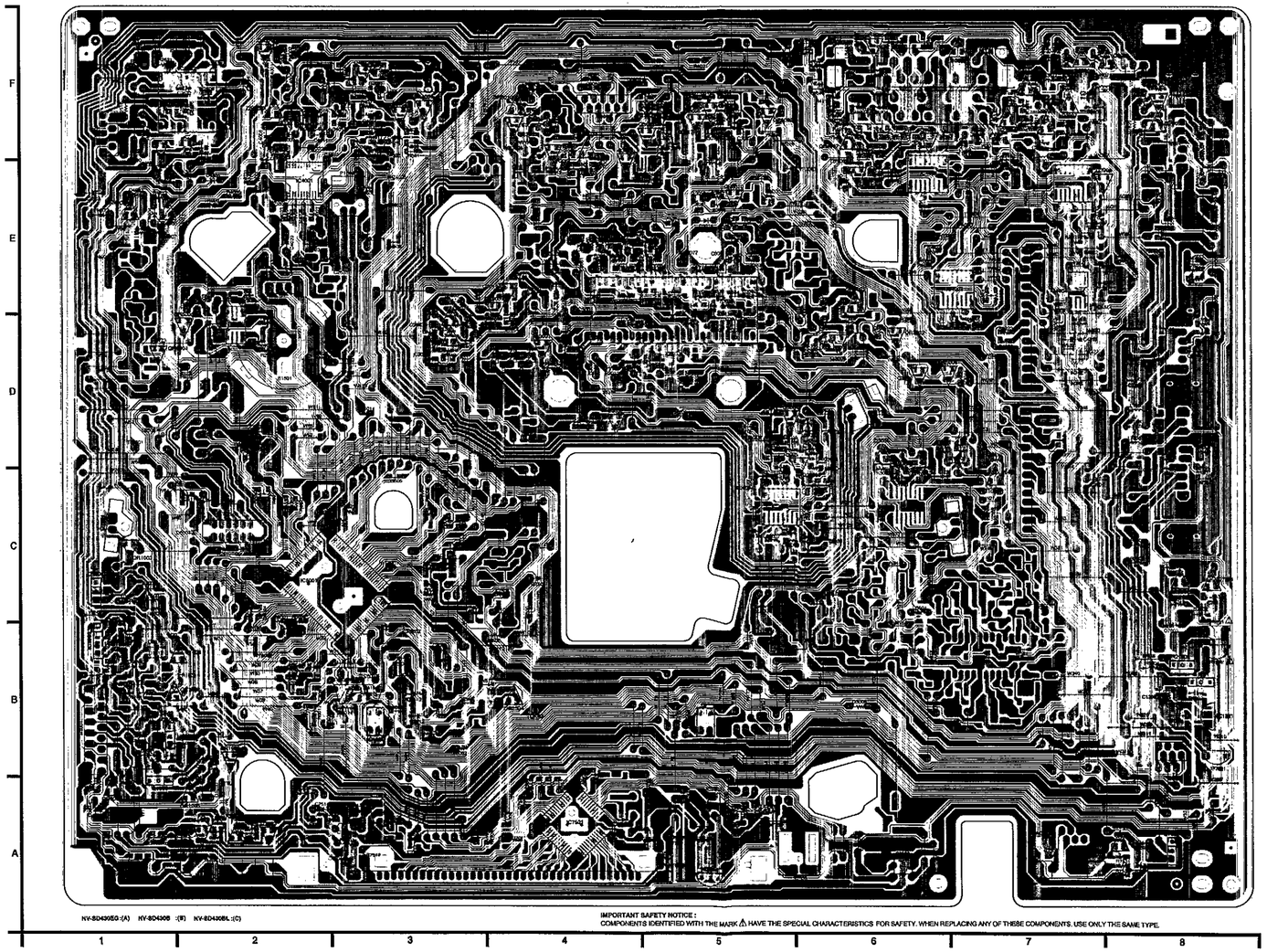
---- CYLINDER SERVO SPEED LOOP



3-15. CYLINDER STATOR UNIT C.B.A. (VEP00V01A)



3-16. MAIN C.B.A. (SD430EG : VEP06C32A, SD430B : VEP06C32B, SD430BL : VEP06C32C)



MAIN C.B.A			
Transistor		QR4904	E-1
Q1001	A-2	QR4905	E-1
Q1002	A-2	QR4906	F-6
Q1003	B-1	QR4907	F-6
Q1004	B-2	QR6001	D-2
Q1005	C-1	QR6002	A-1
Q1006	A-1	QR7601	C-8
Q1201	B-8	Integrated Circuit	
Q1202	B-8	IC1001	B-1
Q1501	C-1	IC1201	B-8
Q1502	C-6	IC1501	B-3
Q1503	A-2	IC1502	B-5
Q3001	D-4	IC2501	D-2
Q3002	D-4	IC2502	F-2
Q3003	C-6	IC3001	E-4
Q3004	D-5	IC3002	C-5
Q3005	D-6	IC4001	E-2
Q3006	D-6	IC4901	E-6
Q3011	E-6	IC4902	E-7
Q3012	D-6	IC4902	E-7
Q3013	D-3	IC4903	E-6
Q3014	D-3	IC6001	C-2
Q3015	E-4	IC7501	A-4
Q3017	F-5	IC7502	A-5
Q3018	F-4	IC7503	A-3
Q3021	F-4	IC7504	A-5
Q3022	E-4	Test land	
Q3023	F-4	TL1	A-2
Q3024	F-5	TL2501	D-1
Q3901	F-7	TL2502	C-2
Q3902	F-7	TL2503	C-2
Q3903	F-6	TL6001	C-3
Q3904	F-7	TL6002	B-4
Q3905	F-7	TL6003	B-3
Q3906	F-7	Test Wire	
Q3907	F-7	TW2001	F-4
Q3908	E-7	TW2002	D-1
Q4001	F-2	TW2501	C-1
Q4002	F-3	TW3001	F-5
Q4003	F-3	TW3002	F-7
Q4904	F-6	TW3003	E-7
Q4905	E-6	TW3030	F-5
Q5602	C-7	TW3031	F-4
Q7501	A-8	TW4001	E-7
Q7502	A-8	TW4002	F-3
Q7601	C-8	TW4003	F-2
Q7602	F-8	TW4005	E-6
Q7603	F-8	TW6002	B-2
Transistor & Resistor		Adjustment	
QR1001	B-2	VR3002	C-7
QR1002	B-1	VR3003	E-5
QR1003	C-1	VR3004	F-4
QR1005	A-2	VR3005	F-4
QR1501	A-2	Connector	
QR3001	E-6	P1001	B-1
QR3002	D-6	P1501	E-3
QR3006	D-6	P2502	F-1
QR3009	F-5	P2501	C-2
QR3010	E-5	P3001	F-4
QR3012	F-4	P4001	D-6
QR3013	F-4	P4002	E-4
QR4001	F-2	P7502	B-8
QR4002	F-3	PS7001	D-7
QR4901	D-1	PS7002	D-7

ADDRESS INFORMATION

3-17. POWER C.B.A. (VEP01826A)

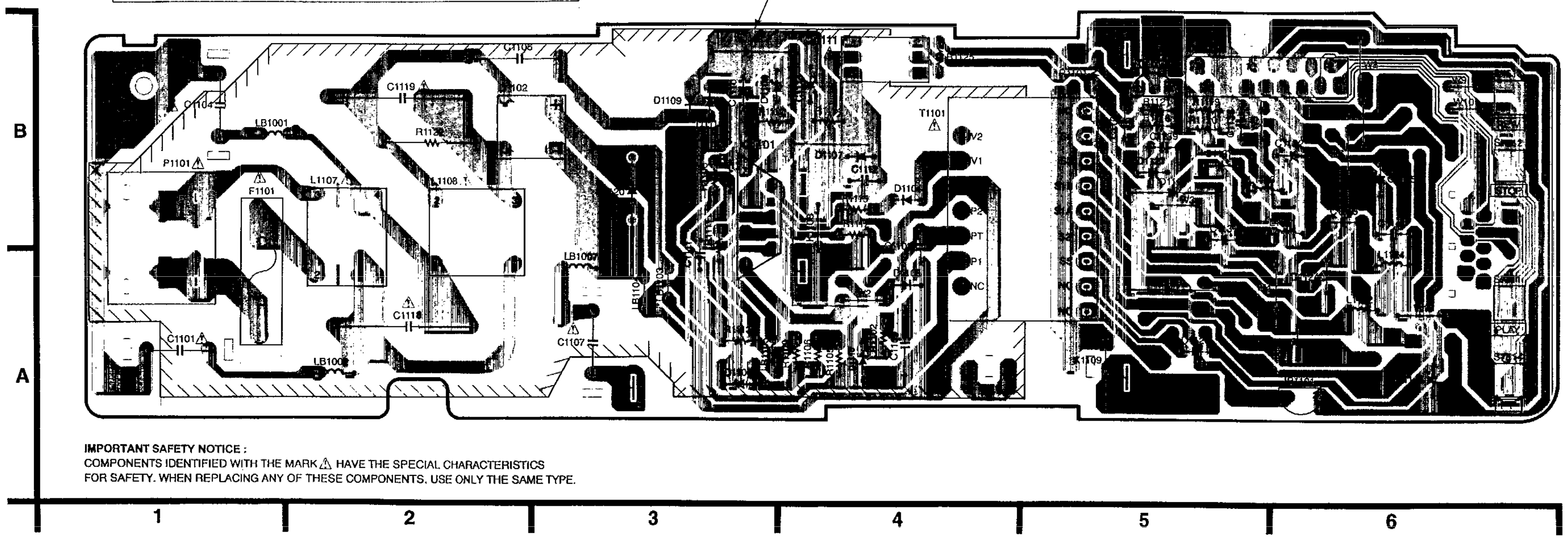
POWER C.B.A.	
Transistor	
Q1111	B-4
Integrated Circuit	
IC1101	B-3
IC1102	B-5
Connector	
P1101	B-1
P1103	B-5

ADDRESS INFORMATION

CAUTION

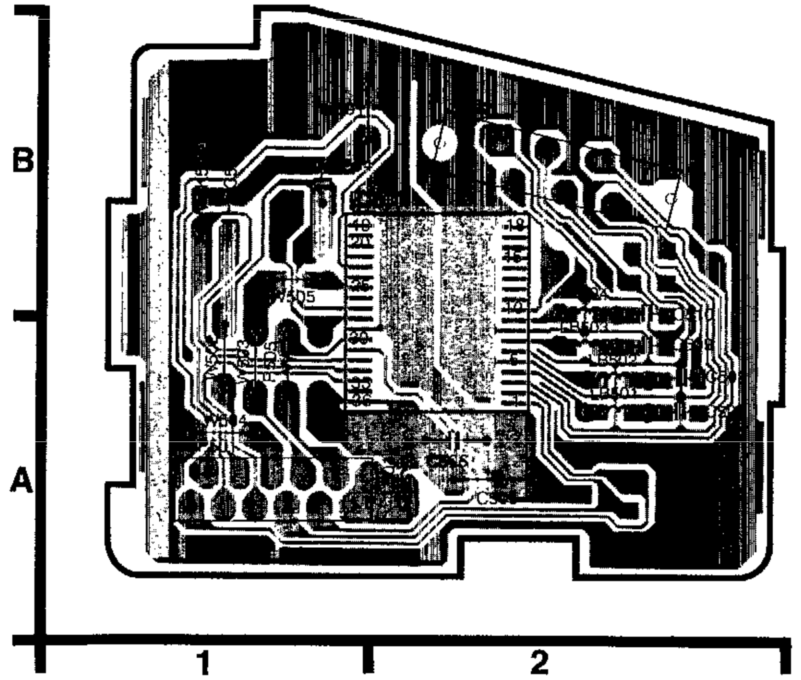
THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

HOT

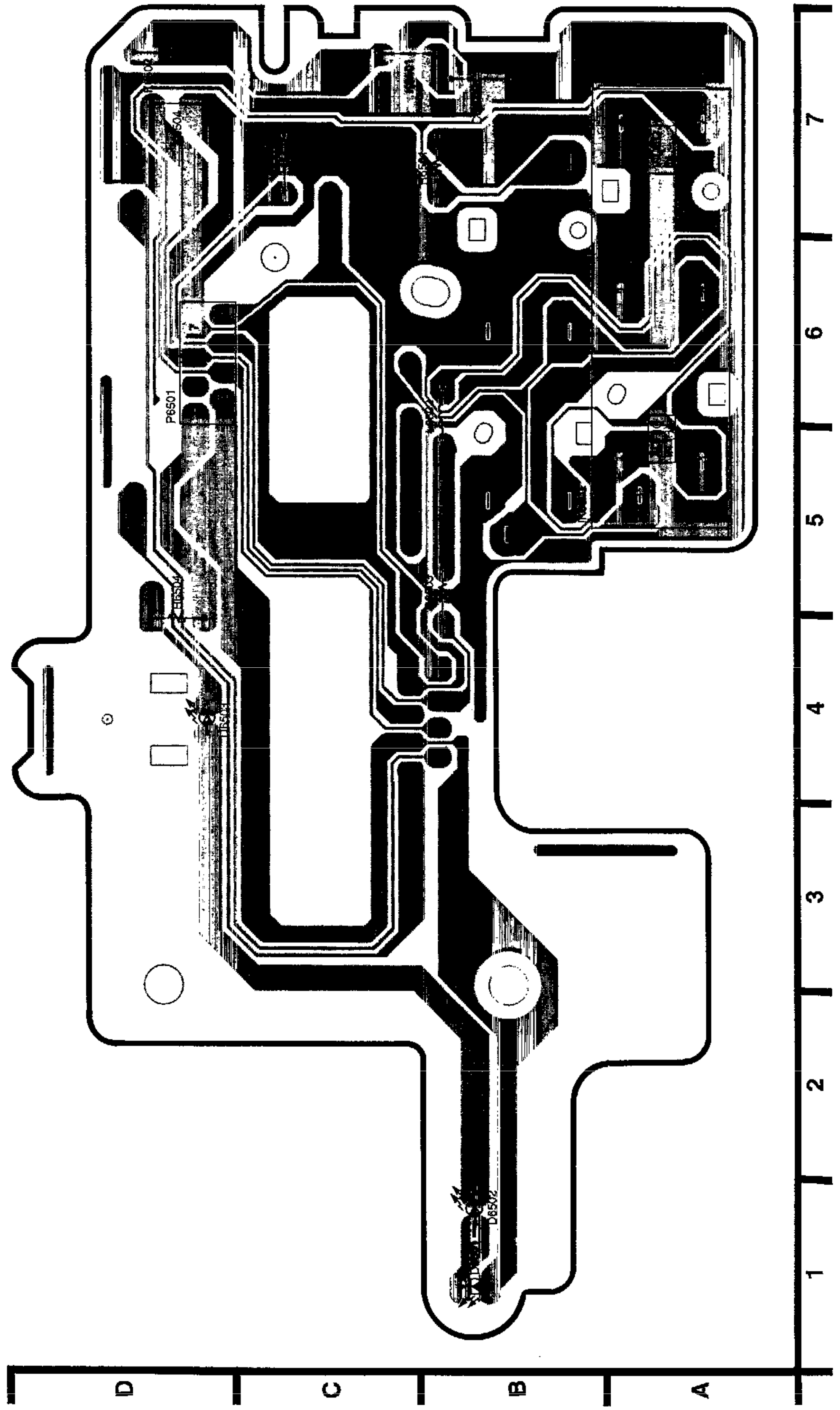


IMPORTANT SAFETY NOTICE :
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

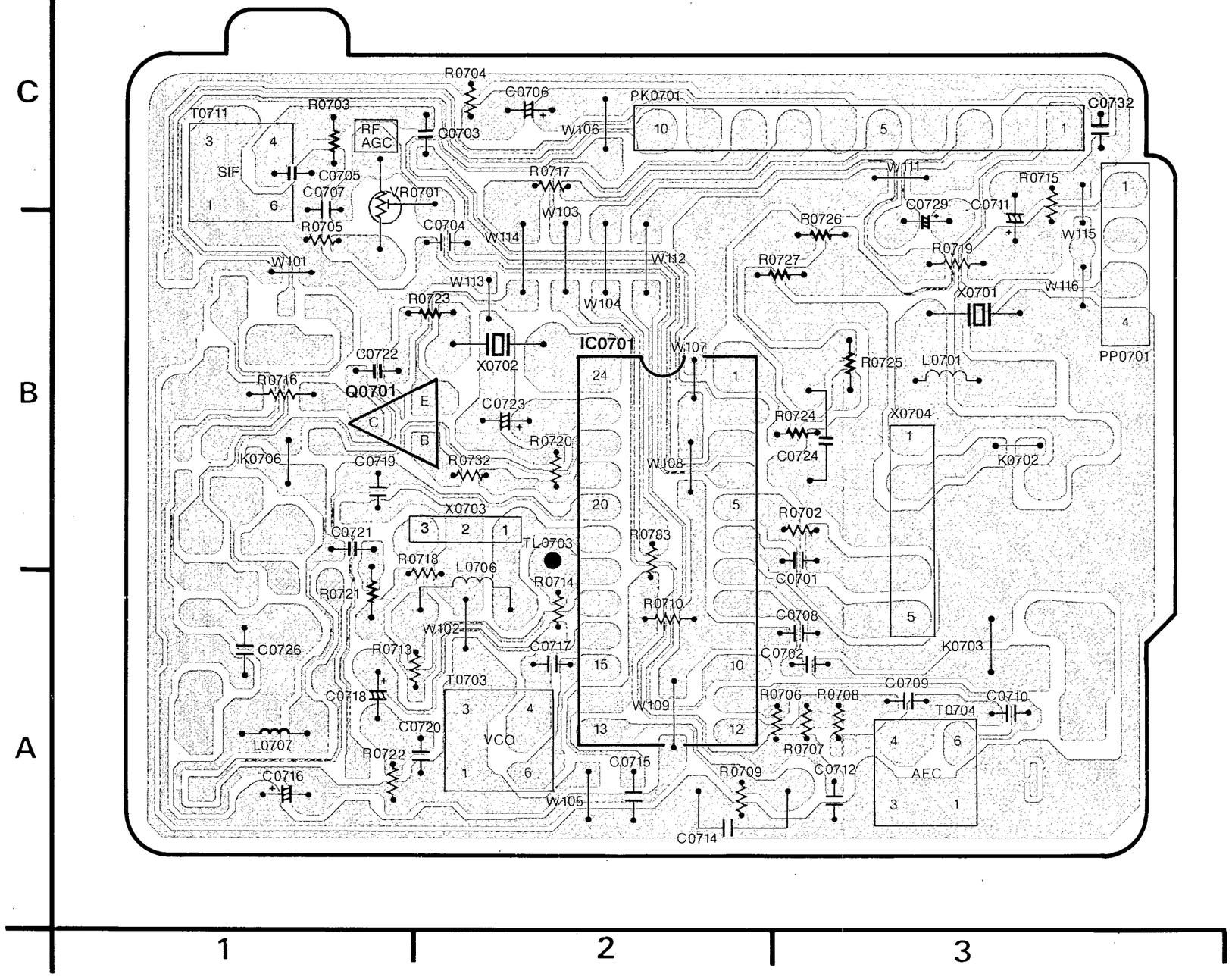
3-18. HEAD AMP C.B.A. (VEP05362A)



3-19. AV FRONT C.B.A. (VEP06C31A)



3-20. TV DEMODULATOR C.B.A. (SD430EG : VEP07801AM, SD430B/BL : VEP07801AN)



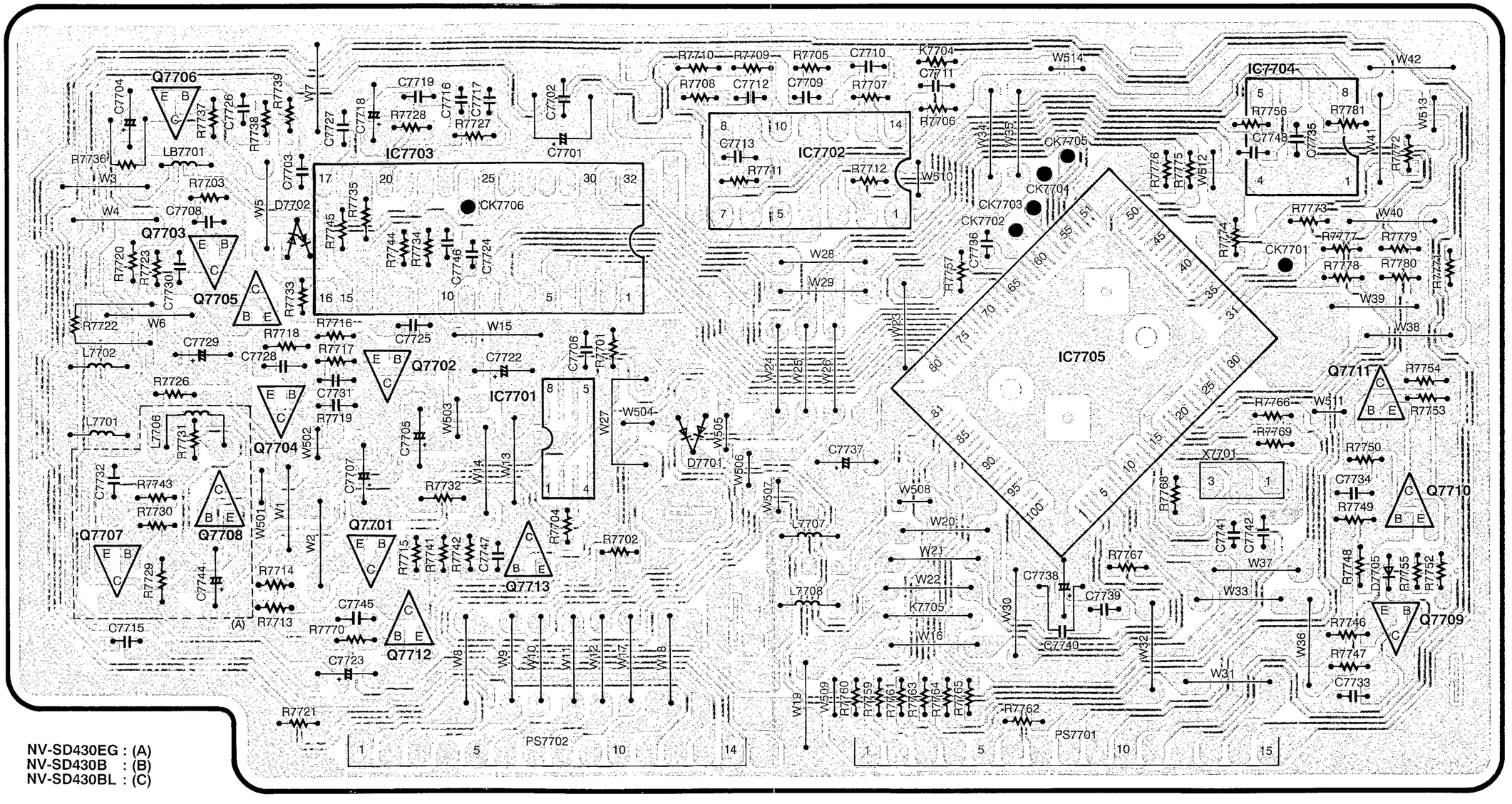
TV DEMODULATOR C.B.A.	
Transistor	
Q0701	B-1
Integrated Circuit	
IC0701	B-2
Adjustment	
VR0701	C-1
Connector	
PP0701	B-3
PK0701	C-2

ADDRESS INFORMATION

3-21. OSD PACK C.B.A. (SD430EG : VEP07974A, SD430B/BL : VEP07974B)

OSD PACK C.B.A.							
Transistor		Q7709	A-8	**Integrated Circuit**		CK7703	D-6
Q7701	B-3	Q7710	B-8	IC7701	C-4	CK7704	D-6
Q7702	C-3	Q7711	C-8	IC7702	D-5	CK7705	D-6
Q7703	D-2	Q7712	A-3	IC7703	D-3	CK7706	D-3
Q7704	C-2	Q7713	B-3	IC7704	D-7	**Connector**	
Q7705	C-2	**Transistor & Resistor**		IC7705	C-6	PS7701	A-6
Q7706	D-2	QR7701	D-4	**Test Point**		PS7702	A-4
Q7707	B-1	QR7702	D-4	CK7701	C-7		
Q7708	B-2			CK7702	D-6		

ADDRESS INFORMATION

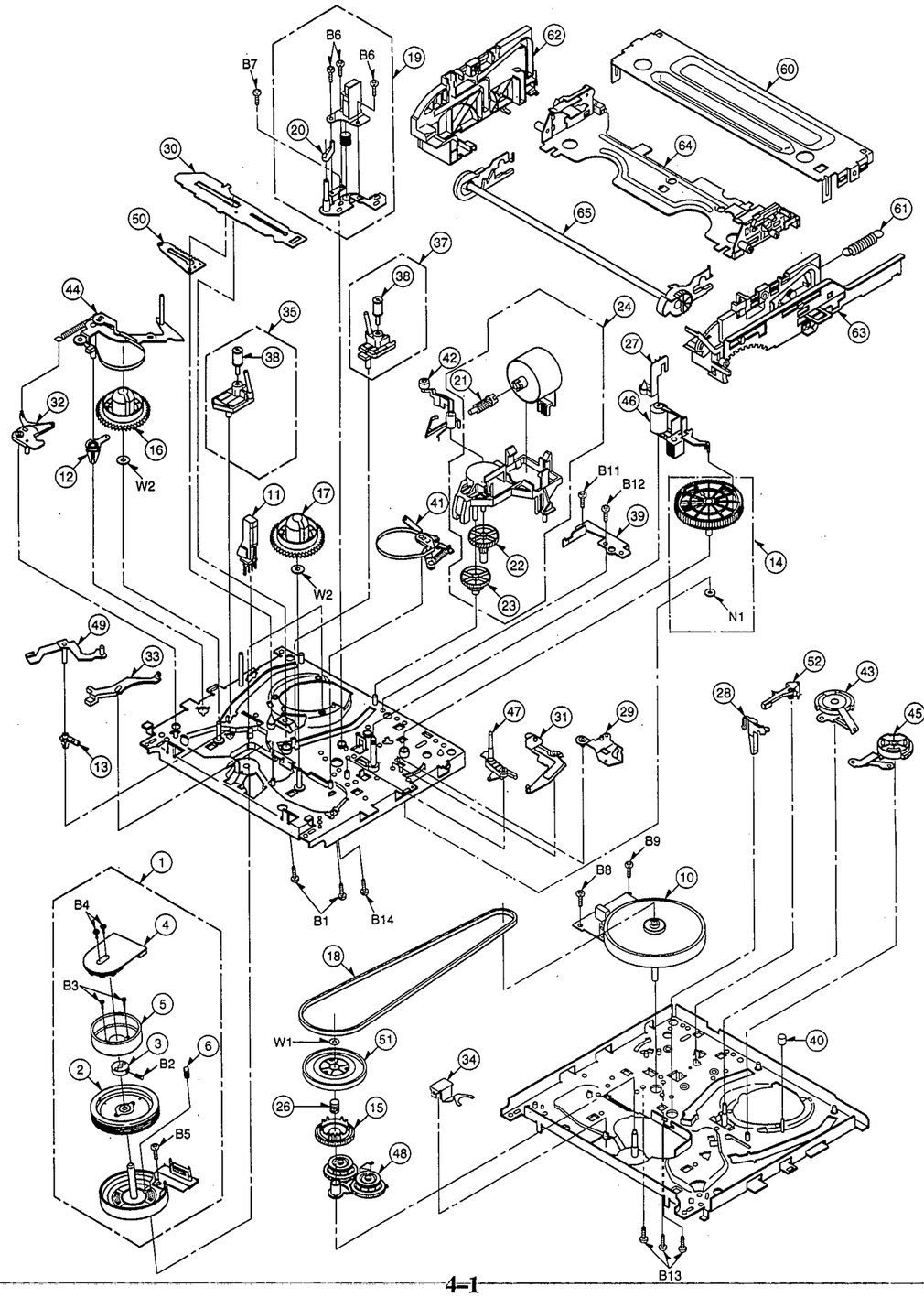


NV-SD430EG : (A)
NV-SD430B : (B)
NV-SD430BL : (C)

SECTION 4
EXPLODED VIEWS & REPLACEMENT PARTS LISTS

4-1. EXPLODED VIEW & MECHANICAL REPLACEMENT PARTS LIST

1. CHASSIS PARTS SECTION



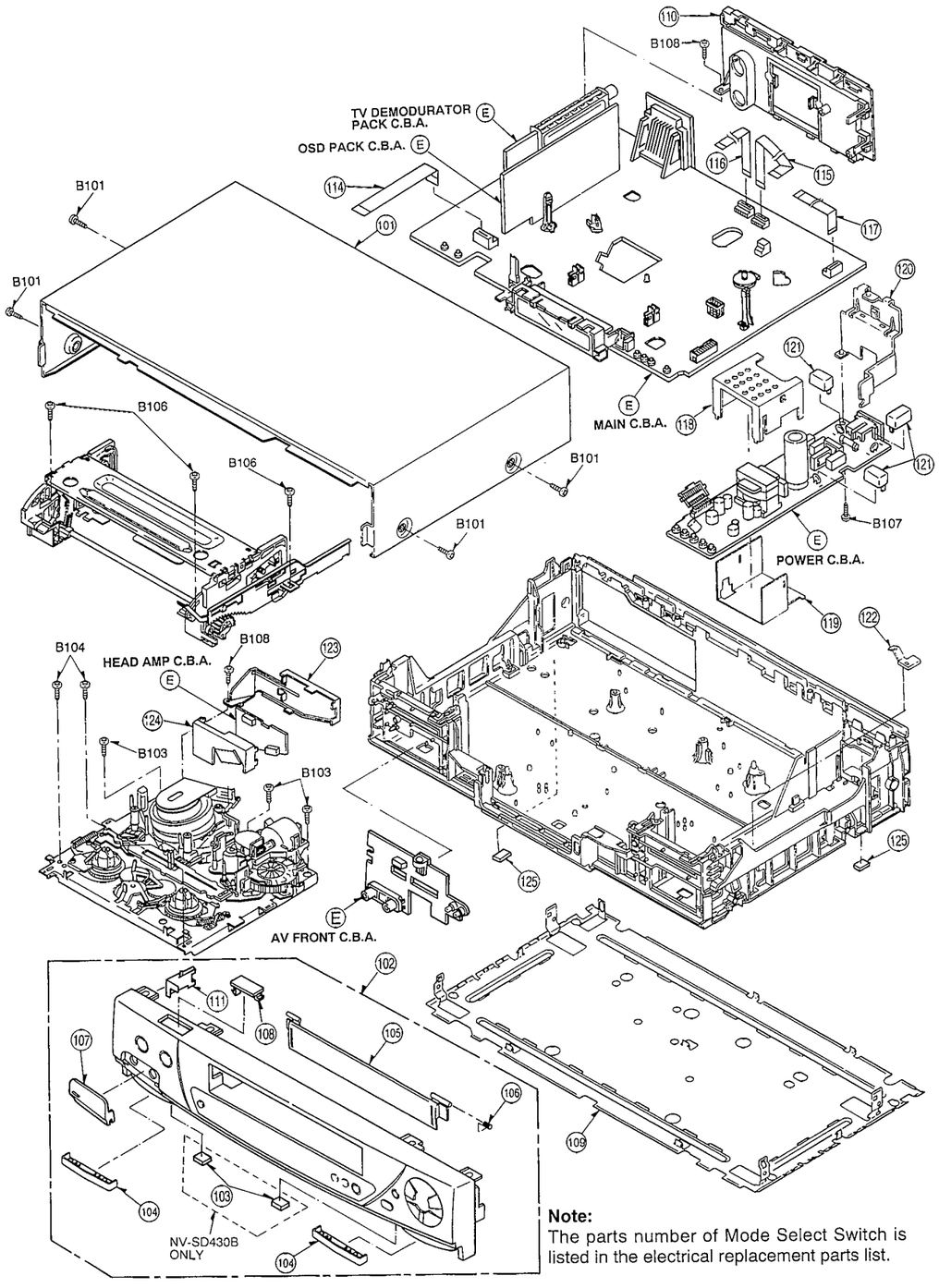
Note: 1.* Be sure to make your orders of replacement parts according to this list.

2. IMPORTANT SAFETY NOTICE
Components identified with the mark < ! > have the special characteristics for safety.
When replacing any of these components, use only the same type.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1 (1)	VEG1405	CYLINDER UNIT	1	
2 (1)	VEH0841	UPPER CYLINDER UNIT	1	
3 (1)	VDB1256	CYLINDER RETAINER	1	
⚠ 4 (1)	VEK7236	CYLINDER STATOR UNIT	1	
5 (1)	VXP1823	CYLINDER ROTOR UNIT	1	
6 (1)	VXS0135	EARTH BRUSH UNIT	1	
10 (1)	VEK8239	CAPSTAN UNIT	1	
11 (1)	VBS0155	FE HEAD	1	
12 (1)	VDB1431	TENSION ARM BOSS	1	
13 (1)	VDB1460	SUPPLY BRAKE ARM BOSS	1	
14 (1)	VDG1220KIT	MAIN CAM GEAR	1	
15 (1)	VDG1221	CONVERSION GEAR	1	
16 (1)	VDR0346	SUPPLY REEL TABLE	1	
17 (1)	VDR0347	TAKE UP REEL TABLE	1	
18 (1)	VDV0372	CAPSTAN BELT	1	
19 (1)	VED0412	A/C HEAD UNIT	1	
20 (1)	VMX2656	P4 CAP	1	
21 (1)	VDG1217	WORM GEAR	1	
22 (1)	VDG1218	WORM WHEEL GEAR	1	
23 (1)	VDG1219	CENTRE GEAR	1	
24 (1)	VEM0604	LOADING MOTOR UNIT	1	
25 (1)	VMD2619	MOTOR BRACKET	1	
26 (1)	VMB3045	CONVERSION GEAR SPRING	1	
27 (1)	VMD2620	OPENER PIECE	1	
28 (1)	VMD2738	LED PRISM	1	
29 (1)	VML3165	DRIVE RACK ARM	1	
30 (1)	VML3166	MAIN LEVER	1	
31 (1)	VML3167	DRIVE MAIN LEVER ARM	1	
32 (1)	VML3172	SUPPLY SPRING ARM	1	
33 (1)	VML3176	CONVERSION LEVER A	1	
34 (1)	VML3177	CONVERSION LEVER B	1	
35 (1)	VXA6040	INCLINED BASE (S) UNIT	1	
37 (1)	VXA5854	INCLINED BASE (T) UNIT	1	
38 (1)	VXP1840	ROLLER POST	2	
39 (1)	VMA9672	SUPPORT ANGLE	1	
40 (1)	VMX2639	CIRCUIT BOARD PROTECTOR	1	
41 (1)	VXL2667	TAKE UP BRAKE ARM UNIT	1	
42 (1)	VXL2669	CLEANER ARM UNIT	1	
43 (1)	VXL2670	TAKE UP LOADING ARM UNIT	1	
44 (1)	VXL2798	TENSION ARM UNIT	1	[SUPPLIED FROM MBV]
45 (1)	VXL2672	SUPPLY LOADING ARM UNIT	1	
46 (1)	VXL2785	PINCH ARM UNIT	1	
47 (1)	VXL2677	P5 ARM UNIT	1	
48 (1)	VXL2792	IDLER ARM UNIT	1	
49 (1)	VXL2733	SUPPLY BRAKE ARM UNIT	1	
50 (1)	VXL2747	LOADING RACK UNIT	1	
51 (1)	VXP1732	CENTRE CLUTCH UNIT	1	
52 (1)	VXZ0430	SS BRAKE ARM UNIT	1	
60 (1)	VMA9516	TOP PLATE	1	
61 (1)	VMB3047	CONNECTION SPRING	1	
62 (1)	VMD2625	SIDE PLATE (L)	1	
63 (1)	VXA5740	SIDE PLATE (R) UNIT	1	
64 (1)	VXA5746	CASSETTE HOLDER UNIT	1	
65 (1)	VXP1730	MAIN SHAFT UNIT	1	
B1 (1)	VHD1117	SCREW	2	
B2 (1)	VHD0842	SCREW	1	
B3 (1)	VHD0843	SCREW	2	
B4 (1)	VHD0844	SCREW	2	
B5 (1)	XYN26+C5	SCREW	1	
B6 (1)	VHD1066	SCREW	3	
B7 (1)	VHD1044	SCREW	1	
B8 (1)	VHD1060	SCREW	1	
B9 (1)	VHD1071	SCREW	1	
B11 (1)	XTS26+6F	SCREW	1	
B12 (1)	XTN26+6F	SCREW	1	
B13 (1)	XTN26+7J	SCREW	3	
B14 (1)	VHD1095	SCREW	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
N1 (1)	VHN0311	PUSH NUT	1	
W1 (1)	VMX2208	WASHER	1	
W2 (1)	VMX2650	WASHER	2	

2. CASING PARTS SECTION



Note:
The parts number of Mode Select Switch is listed in the electrical replacement parts list.

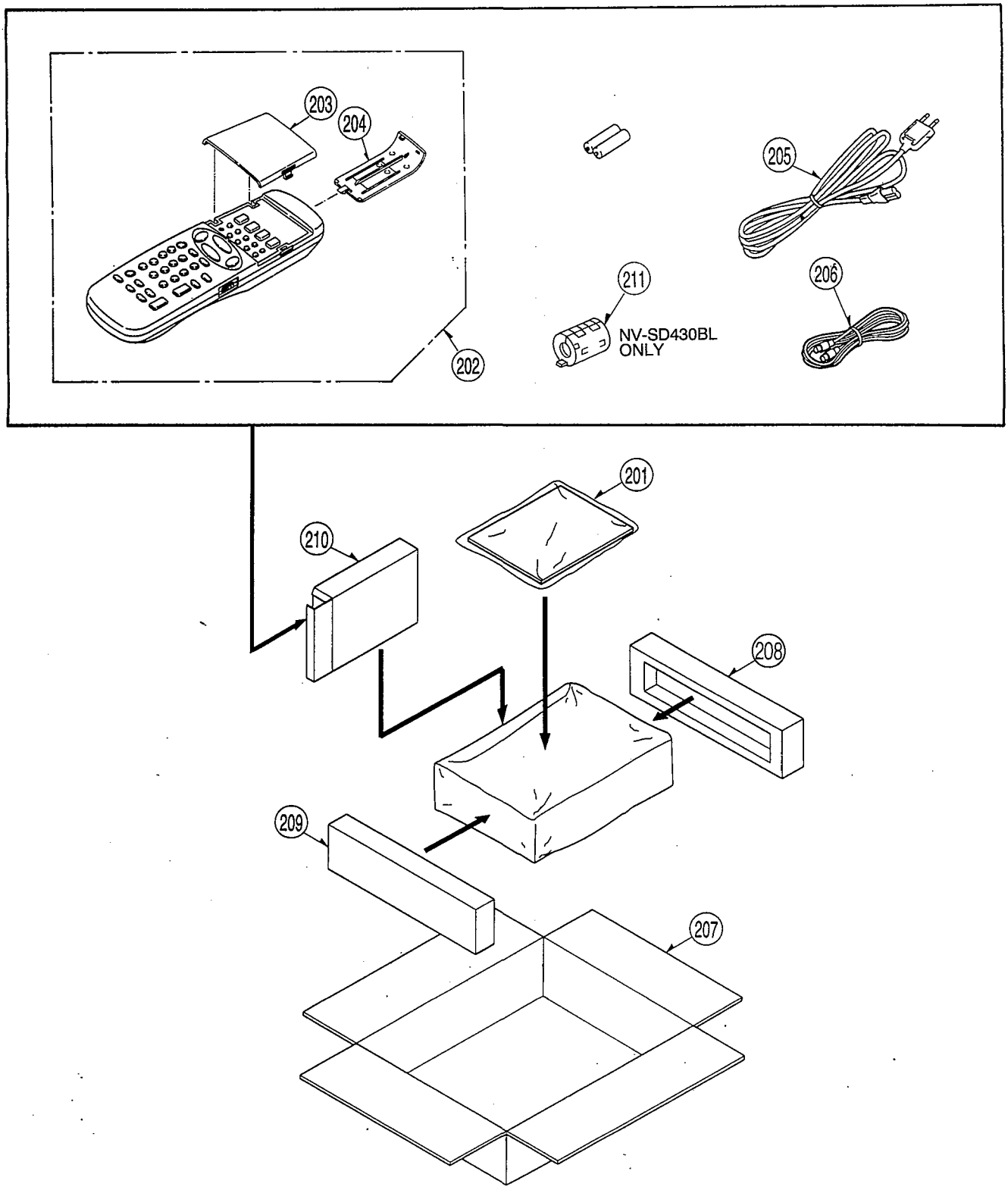
Note: 1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark < ! > have the special characteristics for safety.
When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
101 (2)	VGM1466	TOP PANEL	1	[SUPPLIED FROM MBV]
102 (2)	VYP6723	FRONT PANEL UNIT	1	[SUPPLIED FROM MBV] NV-SD430EG
102 (2)	VYP6724	FRONT PANEL UNIT	1	[SUPPLIED FROM MBV] NV-SD430B/BL
103 (2)	RKA0072	FOOT	2	[SUPPLIED FROM MBV] NV-SD430B
104 (2)	VKA0302	LEG	1	[SUPPLIED FROM MBV]
105 (2)	VKF2844	BLINDER PANEL	1	[SUPPLIED FROM MBV]
106 (2)	VMB2521	BLINDER SPRING	1	
107 (2)	VKF2845	DOOR	1	[SUPPLIED FROM MBV]
108 (2)	VKW2222	SAT FILTER	1	[SUPPLIED FROM MBV]
109 (2)	VKU0519	BOTTOM PLATE	1	
110 (2)	VJH1023	ANTENNA JACK PLATE	1	[SUPPLIED FROM MBV]
111 (2)	VMC1289	EARTH SPRING	1	[SUPPLIED FROM MBV]
114 (2)	VWJ1218	FLAT CARD CABLE	1	[SUPPLIED FROM MBV] P7502 - P6501 (6P)
115 (2)	VWJ1215	FLAT CARD CABLE	1	[SUPPLIED FROM MBV] P4002 - AC HEAD (6P)
116 (2)	VWJ1216	FLAT CARD CABLE	1	[SUPPLIED FROM MBV] P501 - P3001 (11P)
117 (2)	VWJ1214	FLAT CARD CABLE	1	[SUPPLIED FROM MBV] P2502 - UDD (9P)
118 (2)	VSC4205	POWER SHIELD COVER	1	
⚠ 119 (2)	VMZ2378	BARRIER	1	
120 (2)	VMP5133	POWER PLATE	1	
⚠ 121 (2)	VMZ2212	CAPACITOR COVER	3	
122 (2)	VMC1065	EARTH SPRING	1	
123 (2)	VSC4792	HEAD AMP SHIELD (BOTTOM)	1	[SUPPLIED FROM MBV]
124 (2)	VSC4563	HEAD AMP SHIELD (TOP)	1	
125 (2)	RKA0072	LEG 2	2	[SUPPLIED FROM MBV]
B101 (2)	XTW3+10TFZ	SCREW	4	
B103 (2)	VHD1065	SCREW	3	
B104 (2)	VHD0168	SCREW	2	
B106 (2)	XTV26+8FR	SCREW	3	
B107 (2)	VHD0418	SCREW	1	
B108 (2)	VHD0773	SCREW	2	

Note: 1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark < ! > have the special characteristics for safety.
When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ 201 (3)	VQT7293	OPERATING INSTRUCTIONS (GERMAN)	1	[SUPPLIED FROM MBV] NV-SD430EG
⚠ 201 (3)	VQT7297	OPERATING INSTRUCTIONS (SPANISH, PORTUGUESE GREEK)	1	[SUPPLIED FROM MBV] NV-SD430EG
⚠ 201 (3)	VQT7294	OPERATING INSTRUCTIONS (ENGLISH, FRENCH, ITALIAN)	1	[SUPPLIED FROM MBV] NV-SD430EG
⚠ 201 (3)	VQT7295	OPERATING INSTRUCTIONS (DUTCH, DANISH)	1	[SUPPLIED FROM MBV] NV-SD430EG
⚠ 201 (3)	VQT7298	OPERATING INSTRUCTIONS (SWEDISH, FINNISH)	1	[SUPPLIED FROM MBV] NV-SD430EG
⚠ 201 (3)	VQT7299	OPERATING INSTRUCTIONS (ENGLISH)	1	[SUPPLIED FROM MBV] NV-SD430B/BL
202 (3)	VEQ2047	REMOTE CONTROLLER	1	[SUPPLIED FROM MBV] NV-SD430EG
202 (3)	VEQ2048	REMOTE CONTROLLER	1	[SUPPLIED FROM MBV] NV-SD430B/BL
203 (3)	VGP4395	DOOR PANEL	1	
204 (3)	VKF2670	BATTERY COVER	1	
⚠ 205 (3)	VJA1059	AC CORD	1	[SUPPLIED FROM MBV] NV-SD430EG
⚠ 205 (3)	VJA0733	AC CORD	1	NV-SD430B/BL
206 (3)	VJA0963	RF CABLE	1	
207 (3)	VPG9262	PACKING CASE	1	[SUPPLIED FROM MBV]
208 (3)	VPN4793	CUSHION (R)	1	[SUPPLIED FROM MBV]
209 (3)	VPN4792	CUSHION (L)	1	[SUPPLIED FROM MBV]
210 (3)	VPK0825	ACCESSORIES PACKING	1	
211 (3)	VLF1321	FERRITE CORE	1	NV-SD430BL
		SERVICE FIXTURES & TOOLS		
	VFJ8:25H3F	VHS ALIGNMENT TAPE (PAL)	1	
	VFK0335	RETAINING RING REMOVER (3mm/4mm)	1	
	VFK0329	POST ADJUSTMENT SCREWDRIVER	1	
	VFK0326	HEX WRENCH SET	1	
	VFK0132	BACK TENSION METER	1	
	VFK27	HEAD CLEANING STICK	1	
	VFK1024	MOLYTONE GREASE	1	
	VFK0680	WHITE GREASE	1	
	VFK0330	FINE ADJUSTMENT GEAR DRIVER	1	
	VFK2744	16P EXTENSION CABLE	1	
	VFK1301	SILICONE GREASE	1	
	VFK1298	FLOIL GREASE	1	

3. PACKING PARTS SECTION



4-2. ELECTRICAL REPLACEMENT PARTS LIST

Note: 1. Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE : Components identified with the mark < ! > have the special characteristics for safety. When replacing any of these components, use only the same type.
3. Unless otherwise specified,
All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf) , P=uuF.
4. The P.C.Board units marked width' ■ 'show below the main assembled parts.
5. The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
■	VEP06C32A	MAIN C B. A. (Page 4-6)	1	[SUPPLIED FROM MBV] (RTL) NV-SD430EG C. B. A IS INCLUDING THE TV DEMODULATOR PACK C. B A (VEP07801AM). OSD C B A. (VEP07974A).
■	VEP07801AM	TV DEMODULATOR PACK C B A	1	[SUPPLIED FROM MBV] (RTL) C. B. A IS INCLUDED IN MAIN C. B. A. (VEP06C32A)
■	VEP07974A	OSD C B. A.	1	[SUPPLIED FROM MBV] (RTL) C B A IS INCLUDED IN MAIN C. B. A. (VEP06C32A)
■	VEP06C32B	MAIN C B. A. (Page 4-11)	1	[SUPPLIED FROM MBV] (RTL) NV-SD430B C. B A IS INCLUDING THE TV DEMODULATOR PACK C. B A (VEP07801AN) OSD C B A. (VEP07974B)
■	VEP07801AN	TV DEMODULATOR PACK C B A	1	[SUPPLIED FROM MBV] (RTL) C. B. A IS INCLUDED IN MAIN C. B A (VEP06C32B).
■	VEP07974B	OSD C B. A.	1	[SUPPLIED FROM MBV] (RTL) C. B A IS INCLUDED IN MAIN C. B. A. (VEP06C32B)
■	VEP06C32C	MAIN C B. A. (Page 4-17)	1	[SUPPLIED FROM MBV] (RTL) NV-SD430BL C. B. A IS INCLUDING THE TV DEMODULATOR PACK C. B. A (VEP07801AN) OSD C B A. (VEP07974B)
■	VEP07801AN	TV DEMODULATOR PACK C B A	1	[SUPPLIED FROM MBV] (RTL) C. B. A IS INCLUDED IN MAIN C B. A. (VEP06C32C)
■	VEP07974B	OSD C B A.	1	[SUPPLIED FROM MBV] (RTL) C. B. A. IS INCLUDED IN MAIN C B. A. (VEP06C32C)
■	VEP05362A	HEAD AMP C B. A. (Page 4-22)	1	[SUPPLIED FROM MBV] (RTL)
■	VEP06C31A	AV FRONT C B. A. (Page 4-22)	1	[SUPPLIED FROM MBV] (RTL)
⚠ ■	VEP01826A	POWER C B A. (Page 4-22)	1	[SUPPLIED FROM MBV] (RTL)
■	----------	CYLINDER STATOR C. B. A. (Page 4-23)	1	C B. A. IS INCLUDED IN CYLINDER STATOR UNIT (VEK7236)
■	----------	RT CONNECTION C. B. A. (Page 4-23)	1	C. B. A. IS INCLUDED IN CYLINDER UNIT (VEG1405).
■	----------	CAPSTAN DRIVE C B. A.	1	C. B. A. IS INCLUDED IN CAPSTAN UNIT (VEK8239).
⚠ TU7601	ENG47279G1	TUNER	1	[SUPPLIED FROM MBV] NV-SD430EG
⚠ TU7601	ENG47281G1	TUNER	1	[SUPPLIED FROM MBV] NV-SD430B
⚠ TU7601	ENG47280G1	TUNER	1	[SUPPLIED FROM MBV] NV-SD430BL
⚠ F1101	XBA2C16TH15	FUSE	1	
■	VEP06C32A	MAIN C. B. A		[SUPPLIED FROM MBV] (RTL) NV-SD430EG
C0701-03	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	3	
C0704	ECUX1H331JCV	C. CAPACITOR CH 50V 330P	1	
C0705	ECUX1H181JCV	C. CAPACITOR CH 50V 180P	1	
C0706	ECEA1HKA0R1	E. CAPACITOR 50V 0 1U	1	
C0707. 08	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	2	
C0709	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C0710	ECUX1H470JPV	C. CAPACITOR CH 50V 47P	1	
C0711	ECEA1CKA220	E. CAPACITOR 16V 22U	1	
C0712	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C0714	ECQB1H473JF	P. CAPACITOR 50V 0. 047U	1	
C0715	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C0716	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C0717	ECUX1H270JPV	C. CAPACITOR CH 50V 27P	1	
C0718	ECEA1HKAR47	E. CAPACITOR 50V 0. 47U	1	
C0719	ECUX1H180JCV	C CAPACITOR CH 50V 18P	1	
C0720	ECUX1H103ZFV	C CAPACITOR CH 50V 0. 01U	1	
C0721. 22	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	2	
C0723	ECEA1HKA0R1	E. CAPACITOR 50V 0. 1U	1	
C0724	ECQB1H473JF	P. CAPACITOR 50V 0. 047U	1	
C0726	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C0729	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C0732	ECUX1H103ZFV	C CAPACITOR CH 50V 0. 01U	1	
C1001	ECEA1AKA220	E CAPACITOR 10V 22U	1	
C1002	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1003	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
C1004	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1005	ECEA1AKA220	E. CAPACITOR 10V 22U	1	
C1006	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1009	ECEA1EGE470	E. CAPACITOR 25V 47U	1	
C1201	ECEA0JKA101	E. CAPACITOR 6 3V 100U	1	
C1202	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C1203	ECEA1AKA220	E CAPACITOR 10V 22U	1	
C1204	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C2505	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
C2506	ECEA1HKNR47	E. CAPACITOR 50V 0. 47U	1	
C2507-10	ECUM1H563ZFN	C. CAPACITOR CH 50V 0 056U	4	
C2512	ECEA0JKA221	E. CAPACITOR 6. 3V 220U	1	
C2513	ECEA1EKA4R7	E. CAPACITOR 25V 4. 7U	1	
C2514	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C2517	ECEA0JKA221	E. CAPACITOR 6. 3V 220U	1	
C2519	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C2520	ECUX1H392KBN	C. CAPACITOR CH 50V 3900P	1	
C2523	ECEA1EKA470	E. CAPACITOR 25V 47U	1	
C2524	ECEA0JKA221	E. CAPACITOR 6. 3V 220U	1	
C2525	ECQV1H683JM	P. CAPACITOR 50V 0. 068U	1	
C2526-28	ECUM1E104KBN	C. CAPACITOR CH 25V 0. 1U	3	
C2530	ECEA1VKN4R7	E. CAPACITOR 35V 4. 7U	1	
C2531	ECUM1H473ZFN	C CAPACITOR CH 50V 0. 047U	1	
C2532. 33	ECEA1VKN4R7	E. CAPACITOR 35V 4. 7U	2	
C2535. 36	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	2	
C3002	ECUM1H330JCN	C CAPACITOR CH 50V 33P	1	
C3003	ECUM1H681JCN	C CAPACITOR CH 50V 680P	1	
C3007	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3008	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C3009	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3010	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C3011, 12	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C3013	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
C3014	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C3015, 16	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	2	
C3018	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3019	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C3020	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C3021	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C3022	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3023	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3024	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C3025	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3026	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C3027, 28	ECEA1CKA100	E. CAPACITOR 16V 10U	2	
C3029	ECUX1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C3030	ECEA1EKA4R7	E. CAPACITOR 25V 4.7U	1	
C3031	ECEA1EKN4R7	E. CAPACITOR 25V 4.7U	1	
C3032	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3033	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3035, 36	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C3037	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C3038	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C3039	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3040, 41	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	2	
C3042	ECUM1H223ZFN	C. CAPACITOR CH 50V 0.022U	1	
C3043	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C3044, 45	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C3051	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3052	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3053	ECUM1H152KBN	C. CAPACITOR CH 50V 1500P	1	
C3054	ECUX1H392KBN	C. CAPACITOR CH 50V 3900P	1	
C3055	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C3056	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
C3057	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C3058, 59	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	2	
C3060	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3061	ECEA1EKA4R7	E. CAPACITOR 25V 4.7U	1	
C3062	ECUM1H390JCN	C. CAPACITOR CH 50V 39P	1	
C3063	ECUM1H102GCN	C. CAPACITOR CH 50V 1000P	1	[SUPPLIED FROM MBV]
C3065	ECUX1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C3066	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C3067	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C3068	ECUM1H681GCN	C. CAPACITOR CH 50V 680P	1	[SUPPLIED FROM MBV]
C3069	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
C3070, 71	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	2	
C3072	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3074	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3075	ECUX1C474KBN	C. CAPACITOR CH 16V 0.47U	1	
C3076	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C3077	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C3078	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3079	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C3080	ECUM1E333KBN	C. CAPACITOR CH 25V 0.033U	1	
C3081	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C3082	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C3083	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
C3085	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C3086	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3087	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3088	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3090	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C3092	ECUM1H681JCN	C. CAPACITOR CH 50V 680P	1	
C3094	ECUM1H620JCN	C. CAPACITOR CH 50V 62P	1	
C3095	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C3096	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3097	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C3099	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3101, 02	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C3103	ECUM1H683ZFN	C. CAPACITOR CH 50V 0.068U	1	
C3901	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C3902, 03	ECEA1CKA100	E. CAPACITOR 16V 10U	2	
C3904	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C3905	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C4002	ECUM1H152JCN	C. CAPACITOR CH 50V 1500P	1	
C4003	ECUX1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C4004	ECEA0JKA331	E. CAPACITOR 6.3V 330U	1	
C4005	ECQB1H223JF	P. CAPACITOR 50V 0.022U	1	
C4006, 07	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	2	
C4008, 09	ECEA1CKA220	E. CAPACITOR 16V 22U	2	
C4010	ECUM1H182JN	C. CAPACITOR CH 50V 1800P	1	
C4011	ECEA1HKA4R7	E. CAPACITOR 50V 4.7U	1	
C4012	ECUM1H222JN	C. CAPACITOR CH 50V 2200P	1	
C4013	ECUM1H473KBN	C. CAPACITOR CH 50V 0.047U	1	
C4014	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C4015	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C4016, 17	ECUM1H153KBN	C. CAPACITOR CH 50V 0.015U	2	
C4019	ECUM1H822KBN	C. CAPACITOR CH 50V 8200P	1	
C4020	ECEA1HKA4R7	E. CAPACITOR 50V 4.7U	1	
C4022	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C4023	ECEA1AKA101	E. CAPACITOR 10V 100U	1	
C4024, 25	ECQV1H104B46	P. CAPACITOR 50V 0.1U	2	
C4026	ECEA1AKA220	E. CAPACITOR 10V 22U	1	
C4028	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C4904	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C4905	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C4906	ECEA1CKN100	E. CAPACITOR 16V 10U	1	
C4907	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C4908	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C4909, 10	ECEA1CKN100	E. CAPACITOR 16V 10U	2	
C4911	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C4914	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4915	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C4916	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4917	ECEA1AKA470	E. CAPACITOR 10V 47U	1	
C4918-21	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	4	
C6001	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C6002, 03	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	2	
C6004	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C6005	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C6007	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C6009	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C6011	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C6013	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C6016	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C6020	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7501	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7502	ECEA1HKA100	E. CAPACITOR 50V 10U	1	
C7505	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7506	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C7508	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7513	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7514	VCE0073	SUPER CAPACITOR	1	
C7515	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C7517	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7601	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7602	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7604	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7607	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7608	ECEA1HKA100	E. CAPACITOR 50V 10U	1	
C7610	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7611	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7614	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7615, 16	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	2	
C7617	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C7618	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7701	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7702, 03	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7704	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7705	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7706	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7707	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7708, 09	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	2	
C7710	ECUX1C474ZFN	C. CAPACITOR CH 16V 0.47U	1	
C7711	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7712	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C7713	ECUX1E333ZFN	C. CAPACITOR CH 25V 0.033U	1	
C7715	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7716	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C7717	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7718	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7719	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7722	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7723	ECEA1EKA4R7	E. CAPACITOR 25V 4.7U	1	
C7724	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C7725	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C7726. 27	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7728	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C7729	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7730	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C7731	ECUM1H101JCN	C CAPACITOR CH 50V 100P	1	
C7732	ECUM1H330JCN	C CAPACITOR CH 50V 33P	1	
C7733, 34	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	2	
C7735, 36	ECUM1H104ZFN	C CAPACITOR CH 50V 0.1U	2	
C7737	ECEA0JKA101	E CAPACITOR 6.3V 100U	1	
C7738	ECEA0JKA470	E CAPACITOR 6.3V 47U	1	
C7739	ECUM1H104ZFN	C CAPACITOR CH 50V 0.1U	1	
C7740	ECUM1H101JCN	C CAPACITOR CH 50V 100P	1	
C7741, 42	ECUM1H104ZFN	C CAPACITOR CH 50V 0.1U	2	
C7744	ECEA1HKA010	E CAPACITOR 50V 1U	1	
C7745	ECUM1H820JCN	C CAPACITOR CH 50V 82P	1	
C7746, 47	ECUM1H104ZFN	C CAPACITOR CH 50V 0.1U	2	
D1003	1SS254	DIODE	1	
D1004	MA4051-M	DIODE	1	
D1005	1SS254	DIODE	1	
D1006	MA4120-M	DIODE	1	
D1009	MA4051-M	DIODE	1	
D1010	1SS254	DIODE	1	
D1011, 12	11ES1	DIODE	2	
D1013	1SS254	DIODE	1	
D1015	1SS254	DIODE	1	
D1016	MA723-VT	DIODE	1	
D1501	SIR505S	DIODE	1	
D2501	MA723-VT	DIODE	1	
D2502-04	1SS254	DIODE	3	
D2506-08	MA151WK	DIODE	3	
D2509	MA151K	DIODE	1	
D3009	ERDS2TJ101	C. RESISTOR 1/4W 100	1	
D3010	1SS254	DIODE	1	
D3014	1SS254	DIODE	1	
D3015	MA151K	DIODE	1	
D3016	MA151WA	DIODE	1	
D3901, 02	MA4056-M	DIODE	2	
D4903	1SS254	DIODE	1	
D4904	MA4120-M	DIODE	1	
D4905	1SS254	DIODE	1	
D4907	MA4056-M	DIODE	1	
D6001	1SS254	DIODE	1	
D7521	MA4220-L	DIODE	1	
D7523	MA723-VT	DIODE	1	
D7601	MA4300-M	DIODE	1	
D7602, 03	1SS254	DIODE	2	
D7701	MA151WK	DIODE	1	
D7702	MA153	DIODE	1	
D7705	1SS355	DIODE	1	
DP7501	VSL0505	DISPLAY TUBE	1	[SUPPLIED FROM MBV]
IC0701	LA7576	IC	1	
IC1001	PQ20VB2E	IC	1	[SUPPLIED FROM MBV]
IC1201	UPC1093J	IC	1	
IC1501, 02	RP1354N	IC	2	
IC2501	BA10358F	IC NJM2904M (VED)	1	[SUPPLIED FROM MBV]
IC2502	AN3814K	IC	1	
IC3001	TDA9725V2	IC	1	[SUPPLIED FROM MBV]
IC3002	TL8850AF	IC	1	
IC4001	BA7795FS	IC	1	
IC4901	HCF4053BM1	IC MC14053BF (VED)	1	[SUPPLIED FROM MBV]
IC4902, 03	HCF4052BM1	IC MC14052BF (VED)	2	[SUPPLIED FROM MBV]
IC4904	NJM4558M	IC	1	
IC6001	M37777V1GJ	IC	1	[SUPPLIED FROM MBV]
IC7501	M35500AFP	IC	1	[SUPPLIED FROM MBV]
IC7502	S80743AL	IC	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC7503	PST7028	IC	1	
IC7504	PNA4611M02VT	IR RECEIVER UNIT	1	[SUPPLIED FROM MBV]
IC7701	NJM2246M	IC	1	[SUPPLIED FROM MBV]
IC7702	SDA5650	IC	1	[SUPPLIED FROM MBV]
IC7703	M35062WVAR	IC	1	[SUPPLIED FROM MBV]
IC7704	M24C16-WBN6	IC ST24W16FB6 (VED)	1	[SUPPLIED FROM MBV]
IC7705	M30612VCCZ	IC	1	[SUPPLIED FROM MBV]
⚠ IP1001	UNH0000300A	IC PROTECTOR	1	
⚠ IP1201, 02	UNH0000300A	IC PROTECTOR	2	
⚠ IP7601	VSF0015A025	IC PROTECTOR	1	[SUPPLIED FROM MBV]
JK4902	VJS3634	21PIN SCART JACK	1	[SUPPLIED FROM MBV]
K0702, 03	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
K0706	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
K3002	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K3007	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K5501	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K6002	ERJ6GMZ0R00	M RESISTOR CH 1/10W 0	1	
K7506	ERJ6GMZ0R00	M RESISTOR CH 1/10W 0	1	
K7704	ERJ6GEY0R00	M RESISTOR CH 1/10W 0	1	
L0701	VLQ0163JR10	COIL 0.1UH	1	[SUPPLIED FROM MBV]
L0706	VLQELO5S100K	COIL 10UH	1	
L0707	ELJFA100KB	COIL 10UH	1	
L2502	VLQ0599J101	COIL 100UH	1	
L3001	VLQ0599J100	COIL 10UH	1	
L3002	VLQ0599J270	COIL 27UH	1	
L3003	VLQ0599J470	COIL 47UH	1	
L3006, 07	VLQ0599J390	COIL 39UH	2	
L3008	VLQ0599J680	COIL 68UH	1	
L3010	VLQ0599J390	COIL 39UH	1	
L3013	VLQ0599J820	COIL 82UH	1	
L3014	VLQ0599J100	COIL 10UH	1	
L3015	VLQ0599J470	COIL 47UH	1	
L3016	VLQ0599J121	COIL 120UH	1	
L3017	VLQ0599J820	COIL 82UH	1	
L3018	VLQ0599J151	COIL 150UH	1	
L3019	VLQ0599J120	COIL 12UH	1	
L3020	VLQ0599J101	COIL 100UH	1	
L3021	VLQ0599J270	COIL 27UH	1	
L3022	VLQ0599J6R8	COIL 6.8UH	1	
L3024	ELESN391KA	INDUCTOR 390UH	1	
L3901	VLQ0599J330	COIL 33UH	1	
L4001	VLQ0599J680	COIL 68UH	1	
L4002	ELELN103JA	COIL	1	[SUPPLIED FROM MBV]
L4901	VLQ0599J330	COIL 33UH	1	
L7601	VLQ0599J330	COIL 33UH	1	
L7602	VLQ0599J2R7	COIL 2.7UH	1	
L7603	VLQ0599J330	COIL 33UH	1	
L7605	ELESN330KA	COIL 33UH	1	
L7606	ELESE680KA	INDUCTOR 68UH	1	
L7701, 02	ELESE390KA	INDUCTOR 39UH	2	
L7706	ELESN270KA	INDUCTOR 27UH	1	
L7707	ELESE100KA	INDUCTOR 10UH	1	
L7708	ELESE101KA	INDUCTOR 100UH	1	
LB3001, 02	ERJ6GMYG561	M RESISTOR CH 1/10W 560	2	
LB3003	VLP0145	COIL	1	
LB3004	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
LB3005	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
LB3006, 07	VLP0145	COIL	2	
LB3901	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
LB4901-04	VLP0147	COIL	4	
LB7501	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
LB7701	VLP0145	COIL	1	
P1001	VJS3917A016W	CONNECTOR (FEMALE) 16P	1	
P1501	VJS3837A002	CONNECTOR (FEMALE) 2P	1	
P2501	VJP3835A012	CONNECTOR (MALE) 12P	1	
P2502	VJS3537A009G	CONNECTOR (FEMALE) 9P	1	
P3001	VJS3537A011G	CONNECTOR (FEMALE) 11P	1	
P4001	VJS3837A002	CONNECTOR (FEMALE) 2P	1	
P4002	VJS3537A006G	CONNECTOR (FEMALE) 6P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
P7502	VJS3537A006G	CONNECTOR (FEMALE) 6P	1	
PK0701	VJR0816E010W	CONNECTOR (MALE) 10P	1	
PP0701	VJP3589A004B	CONNECTOR (MALE) 4P	1	
PP7701	VJP3043G015W	CONNECTOR (MALE) 15P	1	[SUPPLIED FROM MBV]
PP7702	VJP3043G014W	CONNECTOR (MALE) 14P	1	
PS7701	VJS3043B015W	CONNECTOR (FEMALE) 15P	1	[SUPPLIED FROM MBV]
PS7702	VJS3043B014W	CONNECTOR (FEMALE) 14P	1	[SUPPLIED FROM MBV]
Q0701	MSD601-S	TRANSISTOR	1	
Q1001	2SD601A	TRANSISTOR	1	
Q1002	2SD602A	TRANSISTOR	1	
Q1003	2SD1996	TRANSISTOR	1	
Q1004	2SB710A	TRANSISTOR	1	
Q1005	2SD2544OPQA	TRANSISTOR	1	
Q1006	2SD1996	TRANSISTOR	1	
Q1201	2SD2259	TRANSISTOR	1	
Q1202	2SD1996	TRANSISTOR	1	
Q1501	PNB2301MBV	TRANSISTOR	1	
Q1502	PNB2301MAV	TRANSISTOR	1	
Q1503	2SD601A	TRANSISTOR	1	
Q3001, 02	2SD601A	TRANSISTOR	2	
Q3003	MSC2295-C	TRANSISTOR	1	
Q3004	2SB709A	TRANSISTOR	1	
Q3005	2SD601A	TRANSISTOR	1	
Q3008	MSC2295-C	TRANSISTOR	1	
Q3012, 13	2SD601A	TRANSISTOR	2	
Q3014	2SB709A	TRANSISTOR	1	
Q3015	2SB709A-R	TRANSISTOR	1	
Q3017	MSC2295-C	TRANSISTOR	1	
Q3018	2SD601A	TRANSISTOR	1	
Q3021	MSC2295-C	TRANSISTOR	1	
Q3022	2SB709A	TRANSISTOR	1	
Q3023, 24	MSC2295-C	TRANSISTOR	2	
Q3901, 02	2SD601A	TRANSISTOR	2	
Q3903	MSD1328-R	TRANSISTOR	1	[SUPPLIED FROM MBV]
Q3904	2SB709A	TRANSISTOR	1	
Q3905	2SD601A	TRANSISTOR	1	
Q3906	2SB709A	TRANSISTOR	1	
Q3907	2SD601A	TRANSISTOR	1	
Q3908	2SB709A	TRANSISTOR	1	
Q4001	2SB710-QR	TRANSISTOR	1	[SUPPLIED FROM MBV]
Q4002	2SD602A-QR	TRANSISTOR	1	[SUPPLIED FROM MBV]
Q4003	2SD601A	TRANSISTOR	1	
Q4904, 05	2SD601A	TRANSISTOR	2	
Q5502	2SD601A	TRANSISTOR	1	
Q7501	2SB709A	TRANSISTOR	1	
Q7502	2SD1994	TRANSISTOR	1	
Q7601	2SD601A	TRANSISTOR	1	
Q7602, 03	2SD1328-S	TRANSISTOR	2	
Q7701	2SB709A	TRANSISTOR	1	
Q7702, 03	2SD601A	TRANSISTOR	2	
Q7704	2SB709A	TRANSISTOR	1	
Q7705, 06	2SD601A	TRANSISTOR	2	
Q7707	2SB709A	TRANSISTOR	1	
Q7708-11	2SD601A	TRANSISTOR	4	
Q7712, 13	2SB709A	TRANSISTOR	2	
QR1001	MUN2112	TRANSISTOR-RESISTOR	1	
QR1002	MUN2213	TRANSISTOR-RESISTOR	1	
QR1003	MUN2211	TRANSISTOR-RESISTOR	1	
QR1005	MUN2213	TRANSISTOR-RESISTOR	1	
QR1501	MUN2112	TRANSISTOR-RESISTOR	1	
QR2504	MUN2213	TRANSISTOR-RESISTOR	1	
QR3001	MUN2213	TRANSISTOR-RESISTOR	1	
QR3002	MUN2113	TRANSISTOR-RESISTOR	1	
QR3006	UN2210	TRANSISTOR-RESISTOR	1	
QR3007	MUN2113	TRANSISTOR-RESISTOR	1	
QR3009, 10	MUN2113	TRANSISTOR-RESISTOR	2	
QR3012, 13	DTC363EK	TRANSISTOR-RESISTOR	2	
QR4001	MUN2212	TRANSISTOR-RESISTOR	1	
QR4002	MUN2112	TRANSISTOR-RESISTOR	1	
QR4901	MUN2212	TRANSISTOR-RESISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
QR4904	MUN2111	TRANSISTOR-RESISTOR	1	
QR4905	MUN2212	TRANSISTOR-RESISTOR	1	
QR4906, 07	UN2217	TRANSISTOR-RESISTOR	2	
QR6001	MUN2111	TRANSISTOR-RESISTOR	1	
QR6002	MUN2211	TRANSISTOR-RESISTOR	1	
QR7601	MUN2213	TRANSISTOR-RESISTOR	1	
R0702	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1	
R0703	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1	
R0704	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R0705	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R0706, 07	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	2	
R0708	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1	
R0709	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R0710	ERJ6GEYG154	M. RESISTOR CH 1/10W 150K	1	
R0713	ERJ3GEYJ271	M. RESISTOR CH 1/16W 270	1	
R0714	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R0715	ERJ3GEYJ432	M. RESISTOR CH 1/16W 4.3K	1	
R0716	VRE0040E151	M. RESISTOR CH 1/10W 150	1	
R0717	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R0718	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R0719	ERJ6GEYG752	M. RESISTOR CH 1/10W 7.5K	1	
R0720	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R0721	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R0722	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R0723	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R0724	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	1	
R0725	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1	
R0726	ERJ3GEYG561	M. RESISTOR CH 1/16W 560	1	[SUPPLIED FROM MBV]
R0727	ERJ3GEYG132	M. RESISTOR CH 1/16W 1.3K	1	
R0732	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1	
R0783	ERJ3GEYJ393	M. RESISTOR CH 1/16W 39K	1	
R1001, 02	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	2	
R1003, 04	ERJ6GMYG562	M. RESISTOR CH 1/10W 5.6K	2	
R1005	ERDS2TJ222	C. RESISTOR 1/4W 2.2K	1	
R1006	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R1007, 08	ERDS2TJ822	C. RESISTOR 1/4W 8.2K	2	
R1009, 10	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R1011	ERJ6GMYG823	M. RESISTOR CH 1/10W 82K	1	
R1012	ERDS2TJ472	C. RESISTOR 1/4W 4.7K	1	
R1013	ERJ6GMYG153	M. RESISTOR CH 1/10W 15K	1	
R1014	ERJ6GMYG163	M. RESISTOR CH 1/10W 16K	1	
R1015	ERJ6GMYG123	M. RESISTOR CH 1/10W 12K	1	
R1016, 17	ERJ6GMYG563	M. RESISTOR CH 1/10W 56K	2	
R1018, 19	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	2	
R1021, 22	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R1023	ERJ6GMYG123	M. RESISTOR CH 1/10W 12K	1	
R1201, 02	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	2	
R1203	ERJ6GMYG563	M. RESISTOR CH 1/10W 56K	1	
R1204	ERDS2TJ102	C. RESISTOR 1/4W 1K	1	
R1501, 02	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	2	
R2504	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R2505	ERJ6GMYG392	M. RESISTOR CH 1/10W 3.9K	1	
R2506, 07	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	2	
R2510	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R2511	ERJ6GMYG433	M. RESISTOR CH 1/10W 43K	1	
R2513	ERJ6GMYJ274	M. RESISTOR CH 1/10W 270K	1	
R2514	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R2515, 16	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R2518	ERDS2TJ391	C. RESISTOR 1/4W 390	1	
R2520	ERDS1TJ1R2	C. RESISTOR 1/2W 1.2	1	
R2521, 22	ERDS2TJ330	C. RESISTOR 1/4W 33	2	
R2523	ERDS1TJ1R5	C. RESISTOR 1/2W 1.5	1	
R2524	ERDS2TJ330	C. RESISTOR 1/4W 33	1	
R2532	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R3001	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R3002	ERJ6GMYG182	M. RESISTOR CH 1/10W 1.8K	1	
R3003, 04	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	2	
R3005	ERJ6GMYG681	M. RESISTOR CH 1/10W 680	1	
R3006, 07	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	2	
R3008	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R3009	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	1	
R3011	ERJ6GMYG392	M. RESISTOR CH 1/10W 3.9K	1	
R3012	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	1	
R3013	ERJ6GMYG331	M. RESISTOR CH 1/10W 330	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3014	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3015	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R3016	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3017	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R3018	ERJ6GMYG471	M. RESISTOR CH 1/10W 470	1	
R3019	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3020	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R3021	ERJ6GMYG470	M. RESISTOR CH 1/10W 47	1	
R3024, 25	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	2	
R3026	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R3027	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3029	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R3030	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	1	
R3040	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R3043	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	1	
R3044	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R3046	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	1	
R3047	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R3048	ERJ6GMYG122	M. RESISTOR CH 1/10W 1.2K	1	
R3049	ERJ6GMYG390	M. RESISTOR CH 1/10W 39	1	
R3050	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3051	ERJ6GMYG122	M. RESISTOR CH 1/10W 1.2K	1	
R3052	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3053	ERJ6GMYG393	M. RESISTOR CH 1/10W 39K	1	
R3057	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3058	ERJ6GMYG271	M. RESISTOR CH 1/10W 270	1	
R3060	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R3061	ERJ6GMYG271	M. RESISTOR CH 1/10W 270	1	
R3062	ERJ6GMYG152	M. RESISTOR CH 1/10W 1.5K	1	
R3063	ERJ6GMYG682	M. RESISTOR CH 1/10W 6.8K	1	
R3064	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R3065	ERJ6GMYG152	M. RESISTOR CH 1/10W 1.5K	1	
R3066	ERJ6GEYJ225	M. RESISTOR CH 1/10W 2.2M	1	
R3069	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R3070	ERJ6GMYG183	M. RESISTOR CH 1/10W 18K	1	
R3071	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R3072	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	1	
R3073	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3075, 76	ERJ6GMYG202	M. RESISTOR CH 1/10W 2K	2	
R3077	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R3078	ERJ6GMYG681	M. RESISTOR CH 1/10W 680	1	
R3079	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R3080	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3081	ERJ6GMYG152	M. RESISTOR CH 1/10W 1.5K	1	
R3082	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3084, 85	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	2	
R3086	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3087	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3088	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R3089	ERJ6GMYJ391	M. RESISTOR CH 1/10W 390	1	
R3090	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3091	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R3092	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R3093	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R3095-97	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	3	
R3098	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R3901	ERJ6GMYG750	M. RESISTOR CH 1/10W 75	1	
R3902, 03	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	2	
R3904	ERJ6GMYG750	M. RESISTOR CH 1/10W 75	1	
R3905	ERJ6GMYG334	M. RESISTOR CH 1/10W 330K	1	
R3906	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3907	ERJ6GMYJ911	M. RESISTOR CH 1/10W 910	1	
R3908, 09	ERJ6GMYG750	M. RESISTOR CH 1/10W 75	2	
R3911, 12	ERJ6GMYG121	M. RESISTOR CH 1/10W 120	2	
R3913	ERJ6GMYG331	M. RESISTOR CH 1/10W 330	1	
R3914	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	1	
R3915	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R3917, 18	ERJ6GMYG121	M. RESISTOR CH 1/10W 120	2	
R3919	ERJ6GMYG331	M. RESISTOR CH 1/10W 330	1	
R3920	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	1	
R3921	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R3922	ERJ6GMYG152	M. RESISTOR CH 1/10W 1.5K	1	
R4001	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R4002	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R4003	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4004	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R4005	ERJ6GMYG100	M. RESISTOR CH 1/10W 10	1	
R4006	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R4007	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4008	ERJ6GMYG391	M. RESISTOR CH 1/10W 390	1	
R4009	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R4010	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R4011	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R4012	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R4013	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4014	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R4015	ERJ6GMYG183	M. RESISTOR CH 1/10W 18K	1	
R4016	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R4017	ERJ6GMYJ391	M. RESISTOR CH 1/10W 390	1	
R4018	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R4019	ERJ6GMYG394	M. RESISTOR CH 1/10W 390K	1	
R4020	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R4021, 22	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R4023	ERJ6GMYG912	M. RESISTOR CH 1/10W 9.1K	1	
R4024	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R4025	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4026	ERJ6GMYG153	M. RESISTOR CH 1/10W 15K	1	
R4027	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R4028	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R4029	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4031, 32	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	2	
R4033	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R4034	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R4907	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	1	
R4909	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R4912	ERDS2TJ561	C. RESISTOR 1/4W 560	1	
R4913	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4914	ERJ6GMYG153	M. RESISTOR CH 1/10W 15K	1	
R4915	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R4916	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R4917, 18	ERJ6GMYG562	M. RESISTOR CH 1/10W 5.6K	2	
R4919	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R4920, 21	ERJ6GMYG562	M. RESISTOR CH 1/10W 5.6K	2	
R4922-24	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	3	
R4925	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R4926	ERJ6GMYG154	M. RESISTOR CH 1/10W 150K	1	
R4927, 28	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	2	
R4929, 30	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R4931	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R4932	ERJ6GMYG682	M. RESISTOR CH 1/10W 6.8K	1	
R4933	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R4934	ERDS1TJ222	C. RESISTOR 1/2W 2.2K	1	
R4935	ERJ6GMYG154	M. RESISTOR CH 1/10W 150K	1	
R4936	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R4937	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R4938-40	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	3	
R5516	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5519	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6001	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R6002	ERJ6GMYG183	M. RESISTOR CH 1/10W 18K	1	
R6003	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6004, 05	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R6006	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6007	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6008, 09	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	2	
R6010	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R6012, 13	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R6014	ERDS2TJ181	C. RESISTOR 1/4W 180	1	
R6015, 16	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	2	
R6017	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R6018	ERJ6GMYG224	M. RESISTOR CH 1/10W 220K	1	
R6019	ERJ6GMYJ106	M. RESISTOR CH 1/10W 10M	1	
R6020	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6021	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R6022	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6024	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R6025	ERDS2TJ121	C. RESISTOR 1/4W 120	1	
R6026	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R6028	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R6029	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R6031	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R6032	ERJ6GMYG393	M. RESISTOR CH 1/10W 39K	1	
R6033	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R6040	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R6042	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6063	ERJ6GMYG562	M. RESISTOR CH 1/10W 5.6K	1	
R7501	ERDS2TJ5R6	C. RESISTOR 1/4W 5.6	1	
R7502, 03	ERJ6GMYG202	M. RESISTOR CH 1/10W 2K	2	
R7504	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7505	ERJ6GMYG432	M. RESISTOR CH 1/10W 4.3K	1	
R7506-08	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	3	
R7509	ERJ6GMYG822	M. RESISTOR CH 1/10W 8.2K	1	
R7510	ERJ6GMYG562	M. RESISTOR CH 1/10W 5.6K	1	
R7511	ERJ6GMYG432	M. RESISTOR CH 1/10W 4.3K	1	
R7512	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R7514	ERJ6GMYG822	M. RESISTOR CH 1/10W 8.2K	1	
R7515	ERJ6GMYG562	M. RESISTOR CH 1/10W 5.6K	1	
R7516	ERJ6GMYG432	M. RESISTOR CH 1/10W 4.3K	1	
R7517	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R7520, 21	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R7523-25	ERJ6GMYJ303	M. RESISTOR CH 1/10W 30K	3	
R7527	ERJ6GMYJ181	M. RESISTOR CH 1/10W 180	1	
R7528	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7529	ERDS2TJ471	C. RESISTOR 1/4W 470	1	
R7531, 32	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	2	
R7533	ERJ6GMYJ303	M. RESISTOR CH 1/10W 30K	1	
R7534	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R7535	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R7539-42	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	4	
R7601, 02	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	2	
R7603	ERDS2TJ911	C. RESISTOR 1/4W 910	1	
R7605, 06	ERG2SJ331	M. RESISTOR 2W 330	2	
R7607, 08	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	2	
R7609, 10	ERJ6GMYG151	M. RESISTOR CH 1/10W 150	2	
R7611	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7612	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R7613, 14	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	2	
R7620	ERDS2TJ471	C. RESISTOR 1/4W 470	1	
R7621	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7622, 23	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	2	
R7701	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R7702	ERJ6GEYG680	M. RESISTOR CH 1/10W 68	1	
R7703	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R7704	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R7705	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R7706	ERJ6GEYG564	M. RESISTOR CH 1/10W 560K	1	
R7707	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R7708	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R7709	ERJ6GEYJ125	M. RESISTOR CH 1/10W 1.2M	1	
R7710	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R7711	ERJ6GEYJ125	M. RESISTOR CH 1/10W 1.2M	1	
R7712	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R7713-15	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	3	
R7716	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	1	
R7717	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R7718	ERJ6GEYG821	M. RESISTOR CH 1/10W 820	1	
R7719	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R7720	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1	
R7722	ERJ6GEYJ112	M. RESISTOR CH 1/10W 1.1K	1	
R7723	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R7726	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R7727, 28	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R7729	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R7730	ERJ6GEYG681	M. RESISTOR CH 1/10W 680	1	
R7731	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R7732	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R7733	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R7734	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R7735	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R7736	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R7737	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R7738	ERJ6GEYG821	M. RESISTOR CH 1/10W 820	1	
R7739	ERJ6GEYG512	M. RESISTOR CH 1/10W 5.1K	1	
R7741	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R7742	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7743	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R7744	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R7745	ERJ6GEYG153	M. RESISTOR CH 1/10W 15K	1	
R7746	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R7747	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R7748	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R7749	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R7750	ERJ6GEYJ225	M. RESISTOR CH 1/10W 2.2M	1	
R7752	ERJ6GEYG273	M. RESISTOR CH 1/10W 27K	1	
R7753	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R7754	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R7755	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R7756	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R7757	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R7759-67	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	9	
R7768	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R7769	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R7770	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R7771-78	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	8	
R7779, 80	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R7781	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
S1501	VSS0520-3	MODE SWITCH	1	[SUPPLIED FROM MBV]
S7502	EVQ11404M	SWITCH	1	
S7503, 04	EVQ11L07B	SWITCH	2	
S7505	VES0834	S-TAB SWITCH	1	
S7506, 07	EVQ11L07B	SWITCH	2	
S7509-11	EVQ11L07B	SWITCH	3	
T0703	EQV5EC071A	TRANSFORMER	1	
T0704	EQV5EC072A	TRANSFORMER	1	
T0711	EQS5EC032A	TRANSFORMER	1	
T4001	EQQ7QF024P	TRANSFORMER	1	
⚠ TU7601	ENG47279G1	TUNER	1	[SUPPLIED FROM MBV]
VR0701	EVNCBAA00B24	V. RESISTOR 20K	1	
VR3002, 03	EVNCYAA03B23	V. RESISTOR 2K	2	
VR3004, 05	EVNCYAA03B52	V. RESISTOR 500	2	
X0701	VLF1416	FILTER	1	[SUPPLIED FROM MBV]
X0702	VLF1290	FILTER	1	[SUPPLIED FROM MBV]
X0703	EFCWS2F11	FILTER	1	[SUPPLIED FROM MBV]
X0704	VLF1138	FILTER	1	[SUPPLIED FROM MBV]
X3001	VSX0162	CRYSTAL OSCILLATOR	1	
X6001	VSX0830	CRYSTAL OSCILLATOR	1	
X6002	VSX0660	CRYSTAL OSCILLATOR	1	
X7701	VSX0934	CERAMIC OSCILLATOR	1	[SUPPLIED FROM MBV]
ZB7501	VXQ0648	FIP HOLDER	1	
		MISCELLANEOUS		
	VMP4471	TV DEMODULATOR ANGLE	1	FOR TV DEMODULATOR C.B.A.
■	VEP06G32B	MAIN C.B.A.		[SUPPLIED FROM MBV]
				(RTL) NV-SD430B
C0701-03	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	3	
C0704	ECUX1H331JCV	C. CAPACITOR CH 50V 330P	1	
C0705	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1	
C0706	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C0707, 08	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	2	
C0709	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C0710	ECUX1H470JPV	C. CAPACITOR CH 50V 47P	1	
C0711	ECEA1CKA220	E. CAPACITOR 16V 22U	1	
C0712	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C0714	ECQB1H473JF	P. CAPACITOR 50V 0.047U	1	
C0715	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C0716	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C0717	ECUX1H270JPV	C. CAPACITOR CH 50V 27P	1	
C0718	ECEA1HKAR47	E. CAPACITOR 50V 0.47U	1	
C0719	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C0720	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C0721, 22	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	2	
C0723	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C0724	ECQB1H473JF	P.CAPACITOR 50V 0.047U	1	
C0726	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C0729	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C0732	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C1001	ECEA1AKA220	E.CAPACITOR 10V 22U	1	
C1002	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1003	ECEA1CGE470	E.CAPACITOR 16V 47U	1	
C1004	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1005	ECEA1AKA220	E.CAPACITOR 10V 22U	1	
C1006	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1009	ECEA1EGE470	E.CAPACITOR 25V 47U	1	
C1201	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1202	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1203	ECEA1AKA220	E.CAPACITOR 10V 22U	1	
C1204	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2505	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2506	ECEA1HKNR47	E.CAPACITOR 50V 0.47U	1	
C2507-10	ECUM1H563ZFN	C.CAPACITOR CH 50V 0.056U	4	
C2512	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C2513	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C2514	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C2517	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C2519	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2520	ECUX1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2523	ECEA1EKA470	E.CAPACITOR 25V 47U	1	
C2524	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C2525	ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C2526-28	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	3	
C2530	ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	1	
C2531	ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C2532,33	ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	2	
C2535,36	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C3002	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3003	ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C3007	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3008	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3009	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3010	ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C3011,12	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C3013	ECUM1H080DCN	C.CAPACITOR CH 50V 8P	1	
C3014	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3015,16	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C3018	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3019	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3020	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3021	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C3022	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3023	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C3024	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C3025	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3026	ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3027,28	ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C3029	ECUX1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C3030	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C3031	ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C3032	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3033	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3035,36	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3037	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3038	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3039	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3040,41	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2	
C3042	ECUM1H223ZFN	C.CAPACITOR CH 50V 0.022U	1	
C3043	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3044,45	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C3051	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3052	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3053	ECUM1H152KBN	C.CAPACITOR CH 50V 1500P	1	
C3054	ECUX1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C3055	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3056	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C3057	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3058,59	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C3060	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3061	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C3062	ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3063	ECUM1H102GCN	C.CAPACITOR CH 50V 1000P	1	[SUPPLIED FROM MBV]
C3065	ECUX1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C3066	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C3067	ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3068	ECUM1H681GCN	C.CAPACITOR CH 50V 680P	1	[SUPPLIED FROM MBV]
C3069	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3070,71	ECUM1H820JCN	C.CAPACITOR CH 50V 82P	2	
C3072	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3074	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3075	ECUX1C474KBN	C.CAPACITOR CH 16V 0.47U	1	
C3076	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C3077	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3078	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3079	ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C3080	ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	1	
C3081	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3082	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3083	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3085	ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3086	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3087	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3088	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3090	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3092	ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C3094	ECUM1H620JCN	C.CAPACITOR CH 50V 62P	1	
C3095	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3096	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3097	ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3099	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3101,02	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C3103	ECUM1H683ZFN	C.CAPACITOR CH 50V 0.068U	1	
C3901	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3902,03	ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C3904	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3905	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C4002	ECUM1H152JCN	C.CAPACITOR CH 50V 1500P	1	
C4003	ECUX1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C4004	ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
C4005	ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C4006,07	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	2	
C4008,09	ECEA1CKA220	E.CAPACITOR 16V 22U	2	
C4010	ECUM1H182JN	C.CAPACITOR CH 50V 1800P	1	
C4011	ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C4012	ECUM1H222JN	C.CAPACITOR CH 50V 2200P	1	
C4013	ECUM1H473KBN	C.CAPACITOR CH 50V 0.047U	1	
C4014	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4015	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C4016,17	ECUM1H153KBN	C.CAPACITOR CH 50V 0.015U	2	
C4019	ECUM1H822KBN	C.CAPACITOR CH 50V 8200P	1	
C4020	ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C4022	ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C4023	ECEA1AKA101	E.CAPACITOR 10V 100U	1	
C4024,25	ECQV1H104B46	P.CAPACITOR 50V 0.1U	2	
C4026	ECEA1AKA220	E.CAPACITOR 10V 22U	1	
C4028	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4904	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4905	ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C4906	ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C4907	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4908	ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C4909,10	ECEA1CKN100	E.CAPACITOR 16V 10U	2	
C4911	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4914	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4915	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4916	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4917	ECEA1AKA470	E.CAPACITOR 10V 47U	1	
C4918-21	ECUM1H470JCN	C.CAPACITOR CH 50V 47P	4	
C6001	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6002,03	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2	
C6004	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C6005	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C6007	ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C6009	ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C6011	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C6013	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C6016	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C6020	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7501	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7502	ECEA1HKA100	E. CAPACITOR 50V 10U	1	
C7505	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7506	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C7508	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7513	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7514	VCE0073	SUPER CAPACITOR	1	
C7515	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C7517	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7601	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7602	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7604	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7607	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7608	ECEA1HKA100	E. CAPACITOR 50V 10U	1	
C7610	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7611	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7614	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7615, 16	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	2	
C7617	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C7618	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7701	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7702, 03	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7704	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7705	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7706	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7707	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7708, 09	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	2	
C7710	ECUX1C474ZFN	C. CAPACITOR CH 16V 0.47U	1	
C7711	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7712	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C7713	ECUX1E333ZFN	C. CAPACITOR CH 25V 0.033U	1	
C7715	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7716	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C7717	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7718	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7719	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7722	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7723	ECEA1EKA4R7	E. CAPACITOR 25V 4.7U	1	
C7724	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C7725	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C7726, 27	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7728	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C7729	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7730	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C7731	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C7733, 34	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	2	
C7735, 36	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7737	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7738	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7739	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7740	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C7741, 42	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7745	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C7746, 47	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
D1003	1SS254	DIODE	1	
D1004	MA4051-M	DIODE	1	
D1005	1SS254	DIODE	1	
D1006	MA4120-M	DIODE	1	
D1009	MA4051-M	DIODE	1	
D1010	1SS254	DIODE	1	
D1011, 12	11ES1	DIODE	2	
D1013	1SS254	DIODE	1	
D1015	1SS254	DIODE	1	
D1016	MA723-VT	DIODE	1	
D1501	SIR505S	DIODE	1	
D2501	MA723-VT	DIODE	1	
D2502-04	1SS254	DIODE	3	
D2506-08	MA151WK	DIODE	3	
D2509	MA151K	DIODE	1	
D3009	ERDS2TJ101	C. RESISTOR 1/4W 100	1	
D3010	1SS254	DIODE	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D3014	1SS254	DIODE	1	
D3015	MA151K	DIODE	1	
D3016	MA151WA	DIODE	1	
D3901, 02	MA4056-M	DIODE	2	
D4903	1SS254	DIODE	1	
D4904	MA4120-M	DIODE	1	
D4905	1SS254	DIODE	1	
D4907	MA4056-M	DIODE	1	
D6001	1SS254	DIODE	1	
D7521	MA4220-L	DIODE	1	
D7523	MA723-VT	DIODE	1	
D7601	MA4300-M	DIODE	1	
D7602, 03	1SS254	DIODE	2	
D7701	MA151WK	DIODE	1	
D7702	MA153	DIODE	1	
D7705	1SS355	DIODE	1	
DP7501	VSL0505	DISPLAY TUBE	1	[SUPPLIED FROM MBV]
IC0701	LA7576	IC	1	
IC1001	PQ20VB2E	IC	1	[SUPPLIED FROM MBV]
IC1201	UPC1093J	IC	1	
IC1501, 02	RP1354N	IC	2	
IC2501	BA10358F	IC NJM2904M (VED)	1	[SUPPLIED FROM MBV]
IC2502	AN3814K	IC	1	
IC3001	TDA9725V2	IC	1	[SUPPLIED FROM MBV]
IC3002	TL8850AF	IC	1	
IC4001	BA7795FS	IC	1	
IC4901	HCF4053BM1	IC MC14053BF (VED)	1	[SUPPLIED FROM MBV]
IC4902, 03	HCF4052BM1	IC MC14052BF (VED)	2	[SUPPLIED FROM MBV]
IC4904	NJM4558M	IC	1	
IC6001	M37777V1GJ	IC	1	[SUPPLIED FROM MBV]
IC7501	M35500AFP	IC	1	[SUPPLIED FROM MBV]
IC7502	S80743AL	IC	1	
IC7503	PST7028	IC	1	
IC7504	PNA4611M02VT	IR RECEIVER UNIT	1	[SUPPLIED FROM MBV]
IC7701	NJM2246M	IC	1	[SUPPLIED FROM MBV]
IC7702	SDA5650	IC	1	[SUPPLIED FROM MBV]
IC7703	M35062WVAR	IC	1	[SUPPLIED FROM MBV]
IC7704	M24C16-WBN6	IC ST24W16FB6 (VED)	1	[SUPPLIED FROM MBV]
IC7705	M30612VCGZ	IC	1	[SUPPLIED FROM MBV]
⚠ IP1001	UNH0003O0A	IC PROTECTOR	1	
⚠ IP1201, 02	UNH0003O0A	IC PROTECTOR	2	
⚠ IP7601	VSF0015A025	IC PROTECTOR	1	[SUPPLIED FROM MBV]
JK4902	VJS3634	21PIN SCART JACK	1	[SUPPLIED FROM MBV]
K0702, 03	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
K0706	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
K3002	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K3007	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K5501	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K6002	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7506	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7704	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
L0701	VLQ0163JR15	COIL 0.15UH	1	
L0706	VLQEL05S8R2K	COIL 8.2UH	1	
L0707	ELJFA100KB	COIL 10UH	1	
L2502	VLQ0599J101	COIL 100UH	1	
L3001	VLQ0599J100	COIL 10UH	1	
L3002	VLQ0599J270	COIL 27UH	1	
L3003	VLQ0599J470	COIL 47UH	1	
L3006, 07	VLQ0599J390	COIL 39UH	2	
L3008	VLQ0599J680	COIL 68UH	1	
L3010	VLQ0599J390	COIL 39UH	1	
L3013	VLQ0599J820	COIL 82UH	1	
L3014	VLQ0599J100	COIL 10UH	1	
L3015	VLQ0599J470	COIL 47UH	1	
L3016	VLQ0599J121	COIL 120UH	1	
L3017	VLQ0599J820	COIL 82UH	1	
L3018	VLQ0599J151	COIL 150UH	1	
L3019	VLQ0599J120	COIL 12UH	1	
L3020	VLQ0599J101	COIL 100UH	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L3021	VLQ0599J270	COIL 27UH	1	
L3022	VLQ0599J6R8	COIL 6.8UH	1	
L3024	ELESN391KA	INDUCTOR 390UH	1	
L3901	VLQ0599J330	COIL 33UH	1	
L4001	VLQ0599J680	COIL 68UH	1	
L4002	ELELN103JA	COIL	1	[SUPPLIED FROM MBV]
L4901	VLQ0599J330	COIL 33UH	1	
L7601	VLQ0599J330	COIL 33UH	1	
L7602	VLQ0599J2R7	COIL 2.7UH	1	
L7603	VLQ0599J330	COIL 33UH	1	
L7605	ELESN330KA	COIL 33UH	1	
L7606	ELESE680KA	INDUCTOR 68UH	1	
L7701,02	ELESE390KA	INDUCTOR 39UH	2	
L7707	ELESE100KA	INDUCTOR 10UH	1	
L7708	ELESE101KA	INDUCTOR 100UH	1	
LB3001,02	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	2	
LB3003	VLP0145	COIL	1	
LB3004	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
LB3005	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
LB3006,07	VLP0145	COIL	2	
LB3901	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
LB4901-04	VLP0147	COIL	4	
LB7501	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
LB7701	VLP0145	COIL	1	
P1001	VJS3917A016W	CONNECTOR (FEMALE) 16P	1	
P1501	VJS3837A002	CONNECTOR (FEMALE) 2P	1	
P2501	VJP3835A012	CONNECTOR (MALE) 12P	1	
P2502	VJS3537A009G	CONNECTOR (FEMALE) 9P	1	
P3001	VJS3537A011G	CONNECTOR (FEMALE) 11P	1	
P4001	VJS3837A002	CONNECTOR (FEMALE) 2P	1	
P4002	VJS3537A006G	CONNECTOR (FEMALE) 6P	1	
P7502	VJS3537A006G	CONNECTOR (FEMALE) 6P	1	
PK0701	VJR0816E010W	CONNECTOR (MALE) 10P	1	
PP0701	VJP3589A004B	CONNECTOR (MALE) 4P	1	
PP7701	VJP3043G015W	CONNECTOR (MALE) 15P	1	[SUPPLIED FROM MBV]
PP7702	VJP3043G014W	CONNECTOR (MALE) 14P	1	
PS7701	VJS3043B015W	CONNECTOR (FEMALE) 15P	1	[SUPPLIED FROM MBV]
PS7702	VJS3043B014W	CONNECTOR (FEMALE) 14P	1	[SUPPLIED FROM MBV]
Q0701	MSD601-S	TRANSISTOR	1	
Q1001	2SD601A	TRANSISTOR	1	
Q1002	2SD602A	TRANSISTOR	1	
Q1003	2SD1996	TRANSISTOR	1	
Q1004	2SB710A	TRANSISTOR	1	
Q1005	2SD2544OPQA	TRANSISTOR	1	
Q1006	2SD1996	TRANSISTOR	1	
Q1201	2SD2259	TRANSISTOR	1	
Q1202	2SD1996	TRANSISTOR	1	
Q1501	PNB2301MBV	TRANSISTOR	1	
Q1502	PNB2301MAV	TRANSISTOR	1	
Q1503	2SD601A	TRANSISTOR	1	
Q3001,02	2SD601A	TRANSISTOR	2	
Q3003	MSC2295-C	TRANSISTOR	1	
Q3004	2SB709A	TRANSISTOR	1	
Q3005	2SD601A	TRANSISTOR	1	
Q3008	MSC2295-C	TRANSISTOR	1	
Q3012,13	2SD601A	TRANSISTOR	2	
Q3014	2SB709A	TRANSISTOR	1	
Q3015	2SB709A-R	TRANSISTOR	1	
Q3017	MSC2295-C	TRANSISTOR	1	
Q3018	2SD601A	TRANSISTOR	1	
Q3021	MSC2295-C	TRANSISTOR	1	
Q3022	2SB709A	TRANSISTOR	1	
Q3023,24	MSC2295-C	TRANSISTOR	2	
Q3901,02	2SD601A	TRANSISTOR	2	
Q3903	MSD1328-R	TRANSISTOR	1	[SUPPLIED FROM MBV]
Q3904	2SB709A	TRANSISTOR	1	
Q3905	2SD601A	TRANSISTOR	1	
Q3906	2SB709A	TRANSISTOR	1	
Q3907	2SD601A	TRANSISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q3908	2SB709A	TRANSISTOR	1	
Q4001	2SB710-QR	TRANSISTOR	1	[SUPPLIED FROM MBV]
Q4002	2SD602A-QR	TRANSISTOR	1	[SUPPLIED FROM MBV]
Q4003	2SD601A	TRANSISTOR	1	
Q4904,05	2SD601A	TRANSISTOR	2	
Q5502	2SD601A	TRANSISTOR	1	
Q7501	2SB709A	TRANSISTOR	1	
Q7502	2SD1994	TRANSISTOR	1	
Q7601	2SD601A	TRANSISTOR	1	
Q7602,03	2SD1328-S	TRANSISTOR	2	
Q7701	2SB709A	TRANSISTOR	1	
Q7702,03	2SD601A	TRANSISTOR	2	
Q7704	2SB709A	TRANSISTOR	1	
Q7705,06	2SD601A	TRANSISTOR	2	
Q7709-11	2SD601A	TRANSISTOR	3	
Q7712,13	2SB709A	TRANSISTOR	2	
QR1001	MUN2112	TRANSISTOR-RESISTOR	1	
QR1002	MUN2213	TRANSISTOR-RESISTOR	1	
QR1003	MUN2211	TRANSISTOR-RESISTOR	1	
QR1005	MUN2213	TRANSISTOR-RESISTOR	1	
QR1501	MUN2112	TRANSISTOR-RESISTOR	1	
QR2504	MUN2213	TRANSISTOR-RESISTOR	1	
QR3001	MUN2213	TRANSISTOR-RESISTOR	1	
QR3002	MUN2113	TRANSISTOR-RESISTOR	1	
QR3006	UN2210	TRANSISTOR-RESISTOR	1	
QR3007	MUN2113	TRANSISTOR-RESISTOR	1	
QR3009,10	MUN2113	TRANSISTOR-RESISTOR	2	
QR3012,13	DTC363EK	TRANSISTOR-RESISTOR	2	
QR4001	MUN2212	TRANSISTOR-RESISTOR	1	
QR4002	MUN2112	TRANSISTOR-RESISTOR	1	
QR4901	MUN2212	TRANSISTOR-RESISTOR	1	
QR4904	MUN2111	TRANSISTOR-RESISTOR	1	
QR4905	MUN2212	TRANSISTOR-RESISTOR	1	
QR4906,07	UN2217	TRANSISTOR-RESISTOR	2	
QR6001	MUN2111	TRANSISTOR-RESISTOR	1	
QR6002	MUN2211	TRANSISTOR-RESISTOR	1	
QR7601	MUN2213	TRANSISTOR-RESISTOR	1	
R0702	ERJ3GEYJ272	M RESISTOR CH 1/16W 2.7K	1	
R0703	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R0704	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0705	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0706,07	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2	
R0708	ERJ3GEYG152	M RESISTOR CH 1/16W 1.5K	1	
R0709	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R0710	ERJ6GEYG154	M.RESISTOR CH 1/10W 150K	1	
R0713	ERJ3GEYJ301	M.RESISTOR CH 1/16W 300	1	
R0714	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R0715	ERJ3GEYJ432	M.RESISTOR CH 1/16W 4.3K	1	
R0716	VRE0040E151	M.RESISTOR CH 1/10W 150	1	
R0717	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R0718	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0719	ERJ6GEYG752	M RESISTOR CH 1/10W 7.5K	1	
R0720	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0721	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R0722	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R0723	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R0724	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R0725	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R0726	ERJ3GEYG561	M.RESISTOR CH 1/16W 560	1	[SUPPLIED FROM MBV]
R0727	ERJ3GEYG162	M.RESISTOR CH 1/16W 1.6K	1	[SUPPLIED FROM MBV]
R0732	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R0783	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R1001,02	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	2	
R1003,04	ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	2	
R1005	ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
R1006	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R1007,08	ERDS2TJ822	C.RESISTOR 1/4W 8.2K	2	
R1009,10	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R1011	ERJ6GMYG823	M.RESISTOR CH 1/10W 82K	1	
R1012	ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R1013	ERJ6GMYG153	M.RESISTOR CH 1/10W 15K	1	
R1014	ERJ6GMYG163	M.RESISTOR CH 1/10W 16K	1	
R1015	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R1016, 17	ERJ6GMYG563	M. RESISTOR CH 1/10W 56K	2	
R1018, 19	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	2	
R1021, 22	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R1023	ERJ6GMYG123	M. RESISTOR CH 1/10W 12K	1	
R1201, 02	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	2	
R1203	ERJ6GMYG563	M. RESISTOR CH 1/10W 56K	1	
R1204	ERDS2TJ102	C. RESISTOR 1/4W 1K	1	
R1501, 02	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	2	
R2504	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R2505	ERJ6GMYG392	M. RESISTOR CH 1/10W 3.9K	1	
R2506, 07	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	2	
R2510	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R2511	ERJ6GMYG433	M. RESISTOR CH 1/10W 43K	1	
R2513	ERJ6GMYJ274	M. RESISTOR CH 1/10W 270K	1	
R2514	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R2515, 16	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R2518	ERDS2TJ391	C. RESISTOR 1/4W 390	1	
R2520	ERDS1TJ1R2	C. RESISTOR 1/2W 1.2	1	
R2521, 22	ERDS2TJ330	C. RESISTOR 1/4W 33	2	
R2523	ERDS1TJ1R5	C. RESISTOR 1/2W 1.5	1	
R2524	ERDS2TJ330	C. RESISTOR 1/4W 33	1	
R2532	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R3001	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R3002	ERJ6GMYG182	M. RESISTOR CH 1/10W 1.8K	1	
R3003, 04	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	2	
R3005	ERJ6GMYG681	M. RESISTOR CH 1/10W 680	1	
R3006, 07	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	2	
R3008	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R3009	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	1	
R3011	ERJ6GMYG392	M. RESISTOR CH 1/10W 3.9K	1	
R3012	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	1	
R3013	ERJ6GMYG331	M. RESISTOR CH 1/10W 330	1	
R3014	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3015	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R3016	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3017	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R3018	ERJ6GMYG471	M. RESISTOR CH 1/10W 470	1	
R3019	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3020	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R3021	ERJ6GMYG470	M. RESISTOR CH 1/10W 47	1	
R3024, 25	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	2	
R3026	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R3027	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3029	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R3030	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	1	
R3040	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R3043	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	1	
R3044	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R3046	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	1	
R3047	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R3048	ERJ6GMYG122	M. RESISTOR CH 1/10W 1.2K	1	
R3049	ERJ6GMYG390	M. RESISTOR CH 1/10W 39	1	
R3050	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3051	ERJ6GMYG122	M. RESISTOR CH 1/10W 1.2K	1	
R3052	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3053	ERJ6GMYG393	M. RESISTOR CH 1/10W 39K	1	
R3057	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3058	ERJ6GMYG271	M. RESISTOR CH 1/10W 270	1	
R3060	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R3061	ERJ6GMYG271	M. RESISTOR CH 1/10W 270	1	
R3062	ERJ6GMYG152	M. RESISTOR CH 1/10W 1.5K	1	
R3063	ERJ6GMYG682	M. RESISTOR CH 1/10W 6.8K	1	
R3064	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R3065	ERJ6GMYG152	M. RESISTOR CH 1/10W 1.5K	1	
R3066	ERJ6GEYJ225	M. RESISTOR CH 1/10W 2.2M	1	
R3069	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R3070	ERJ6GMYG183	M. RESISTOR CH 1/10W 18K	1	
R3071	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R3072	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	1	
R3073	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3075, 76	ERJ6GMYG202	M. RESISTOR CH 1/10W 2K	2	
R3077	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R3078	ERJ6GMYG681	M. RESISTOR CH 1/10W 680	1	
R3079	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R3080	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3081	ERJ6GMYG152	M. RESISTOR CH 1/10W 1.5K	1	
R3082	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3084, 85	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	2	
R3086	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3087	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3088	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R3089	ERJ6GMYJ391	M. RESISTOR CH 1/10W 390	1	
R3090	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3091	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R3092	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R3093	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R3095-97	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	3	
R3098	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R3901	ERJ6GMYG750	M. RESISTOR CH 1/10W 75	1	
R3902, 03	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	2	
R3904	ERJ6GMYG750	M. RESISTOR CH 1/10W 75	1	
R3905	ERJ6GMYG334	M. RESISTOR CH 1/10W 330K	1	
R3906	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3907	ERJ6GMYJ911	M. RESISTOR CH 1/10W 910	1	
R3908, 09	ERJ6GMYG750	M. RESISTOR CH 1/10W 75	2	
R3911, 12	ERJ6GMYG121	M. RESISTOR CH 1/10W 120	2	
R3913	ERJ6GMYG331	M. RESISTOR CH 1/10W 330	1	
R3914	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	1	
R3915	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R3917, 18	ERJ6GMYG121	M. RESISTOR CH 1/10W 120	2	
R3919	ERJ6GMYG331	M. RESISTOR CH 1/10W 330	1	
R3920	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	1	
R3921	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R3922	ERJ6GMYG152	M. RESISTOR CH 1/10W 1.5K	1	
R4001	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R4002	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R4003	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R4004	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R4005	ERJ6GMYG100	M. RESISTOR CH 1/10W 10	1	
R4006	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R4007	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4008	ERJ6GMYG391	M. RESISTOR CH 1/10W 390	1	
R4009	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R4010	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R4011	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R4012	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R4013	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4014	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R4015	ERJ6GMYG183	M. RESISTOR CH 1/10W 18K	1	
R4016	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R4017	ERJ6GMYJ391	M. RESISTOR CH 1/10W 390	1	
R4018	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R4019	ERJ6GMYG394	M. RESISTOR CH 1/10W 390K	1	
R4020	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R4021, 22	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R4023	ERJ6GMYG912	M. RESISTOR CH 1/10W 9.1K	1	
R4024	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R4025	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4026	ERJ6GMYG153	M. RESISTOR CH 1/10W 15K	1	
R4027	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R4028	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R4029	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4031, 32	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	2	
R4033	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R4034	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R4907	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	1	
R4909	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R4912	ERDS2TJ561	C. RESISTOR 1/4W 560	1	
R4913	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4914	ERJ6GMYG153	M. RESISTOR CH 1/10W 15K	1	
R4915	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R4916	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R4917, 18	ERJ6GMYG562	M. RESISTOR CH 1/10W 5.6K	2	
R4919	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R4920, 21	ERJ6GMYG562	M. RESISTOR CH 1/10W 5.6K	2	
R4922-24	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	3	
R4925	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R4926	ERJ6GMYG154	M. RESISTOR CH 1/10W 150K	1	
R4927, 28	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	2	
R4929, 30	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R4931	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R4932	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R4933	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R4934	ERDS1TJ222	C.RESISTOR 1/2W 2.2K	1	
R4935	ERJ6GMYG154	M.RESISTOR CH 1/10W 150K	1	
R4936	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R4937	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R4938-40	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	3	
R5516	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R5519	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6001	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R6002	ERJ6GMYG183	M.RESISTOR CH 1/10W 18K	1	
R6003	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6004,05	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R6006	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6007	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6008,09	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	2	
R6010	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R6012,13	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	2	
R6014	ERDS2TJ181	C.RESISTOR 1/4W 180	1	
R6015,16	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	2	
R6017	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R6018	ERJ6GMYG224	M.RESISTOR CH 1/10W 220K	1	
R6019	ERJ6GMYJ106	M.RESISTOR CH 1/10W 10M	1	
R6020	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6021	ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R6022	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6024	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R6025	ERDS2TJ121	C.RESISTOR 1/4W 120	1	
R6026	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R6028	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R6029	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6031	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R6032	ERJ6GMYG393	M.RESISTOR CH 1/10W 39K	1	
R6033	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R6040	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R6042	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6063	ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	1	
R7501	ERDS2TJ5R6	C.RESISTOR 1/4W 5.6	1	
R7502,03	ERJ6GMYG202	M.RESISTOR CH 1/10W 2K	2	
R7504	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R7505	ERJ6GMYG432	M.RESISTOR CH 1/10W 4.3K	1	
R7506-08	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	3	
R7509	ERJ6GMYG822	M.RESISTOR CH 1/10W 8.2K	1	
R7510	ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	1	
R7511	ERJ6GMYG432	M.RESISTOR CH 1/10W 4.3K	1	
R7512	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R7514	ERJ6GMYG822	M.RESISTOR CH 1/10W 8.2K	1	
R7515	ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	1	
R7516	ERJ6GMYG432	M.RESISTOR CH 1/10W 4.3K	1	
R7517	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R7520,21	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R7523-25	ERJ6GMYJ303	M.RESISTOR CH 1/10W 30K	3	
R7527	ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R7528	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R7529	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R7531,32	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	2	
R7533	ERJ6GMYJ303	M.RESISTOR CH 1/10W 30K	1	
R7534	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7535	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R7539-42	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	4	
R7601,02	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	2	
R7603	ERDS2TJ911	C.RESISTOR 1/4W 910	1	
R7605,06	ERG2SJ331	M.RESISTOR 2W 330	2	
R7607,08	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R7609,10	ERJ6GMYG151	M.RESISTOR CH 1/10W 150	2	
R7611	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R7612	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R7613,14	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	2	
R7620	ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R7621	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R7622,23	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R7701	ERJ6GEYG105	M.RESISTOR CH 1/10W 1M	1	
R7702	ERJ6GEYG680	M.RESISTOR CH 1/10W 68	1	
R7703	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1	
R7704	ERJ6GEYG105	M.RESISTOR CH 1/10W 1M	1	
R7705	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1	
R7706	ERJ6GEYG564	M.RESISTOR CH 1/10W 560K	1	
R7707	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	1	
R7708	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
R7709	ERJ6GEYJ125	M.RESISTOR CH 1/10W 1.2M	1	
R7710	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
R7711	ERJ6GEYJ125	M.RESISTOR CH 1/10W 1.2M	1	
R7712	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R7713-15	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	3	
R7716	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
R7717	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R7718	ERJ6GEYG821	M.RESISTOR CH 1/10W 820	1	
R7719	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1	
R7720	ERJ6GEYG392	M.RESISTOR CH 1/10W 3.9K	1	
R7722	ERJ6GEYJ112	M.RESISTOR CH 1/10W 1.1K	1	
R7723	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1	
R7726	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1	
R7727,28	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	2	
R7732	ERJ6GEYG105	M.RESISTOR CH 1/10W 1M	1	
R7733	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
R7734	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R7735	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
R7736	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	1	
R7737	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1	
R7738	ERJ6GEYG821	M.RESISTOR CH 1/10W 820	1	
R7739	ERJ6GEYG512	M.RESISTOR CH 1/10W 5.1K	1	
R7741	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1	
R7742	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1	
R7744	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
R7745	ERJ6GEYG153	M.RESISTOR CH 1/10W 15K	1	
R7746	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7747	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	1	
R7748	ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R7749	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	1	
R7750	ERJ6GEYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R7752	ERJ6GEYG273	M.RESISTOR CH 1/10W 27K	1	
R7753	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1	
R7754	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R7755	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R7756	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R7757	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R7759-67	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	9	
R7768	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R7769	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1	
R7770	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R7771-78	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	8	
R7779,80	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	2	
R7781	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1	
S1501	VSS0520-3	MODE SWITCH	1	[SUPPLIED FROM MBV]
S7502	EVQ11404M	SWITCH	1	
S7503,04	EVQ11L07B	SWITCH	2	
S7505	VES0834	S-TAB SWITCH	1	
S7506,07	EVQ11L07B	SWITCH	2	
S7509-11	EVQ11L07B	SWITCH	3	
T0703	EQV5EC071A	TRANSFORMER	1	
T0704	EQV5EC072A	TRANSFORMER	1	
T0711	EQS5EC032A	TRANSFORMER	1	
T4001	EQQ7QF024P	TRANSFORMER	1	
⚠ TU7601	ENG47281G1	TUNER	1	[SUPPLIED FROM MBV]
VR0701	EVNCBAA00B24	V.RESISTOR 20K	1	
VR3002,03	EVNCYAA03B23	V.RESISTOR 2K	2	
VR3004,05	EVNCYAA03B52	V.RESISTOR 500	2	
X0701	VLF1417	FILTER	1	[SUPPLIED FROM MBV]
X0702	VLF1291	FILTER	1	[SUPPLIED FROM MBV]
X0703	EFCWS2F14	FILTER	1	[SUPPLIED FROM MBV]
X0704	VLF1166	FILTER	1	[SUPPLIED FROM MBV]
X3001	VSX0162	CRYSTAL OSCILLATOR	1	
X6001	VSX0830	CRYSTAL OSCILLATOR	1	
X6002	VSX0660	CRYSTAL OSCILLATOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
X7701	VSX0934	CERAMIC OSCILLATOR	1	[SUPPLIED FROM MBV]
ZB7501	VXQ0648	FIP HOLDER	1	
		MISCELLANEOUS		
	VMP4471	TV DEMODULATOR ANGLE	1	FOR TV DEMODULATOR C.B.A.
■	VEP06C32C	MAIN C.B.A.		[SUPPLIED FROM MBV]
				(RTL) NV-SD430BL
C0701-03	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	3	
C0704	ECUX1H331JCV	C. CAPACITOR CH 50V 330P	1	
C0705	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1	
C0706	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C0707, 08	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	2	
C0709	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C0710	ECUX1H470JPV	C. CAPACITOR CH 50V 47P	1	
C0711	ECEA1CKA220	E. CAPACITOR 16V 22U	1	
C0712	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C0714	ECQB1H473JF	P. CAPACITOR 50V 0.047U	1	
C0715	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C0716	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C0717	ECUX1H270JPV	C. CAPACITOR CH 50V 27P	1	
C0718	ECEA1HKAR47	E. CAPACITOR 50V 0.47U	1	
C0719	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C0720	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C0721, 22	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	2	
C0723	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C0724	ECQB1H473JF	P. CAPACITOR 50V 0.047U	1	
C0726	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C0729	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C0732	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C1001	ECEA1AKA220	E. CAPACITOR 10V 22U	1	
C1002	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1003	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
C1004	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1005	ECEA1AKA220	E. CAPACITOR 10V 22U	1	
C1006	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1009	ECEA1EGE470	E. CAPACITOR 25V 47U	1	
C1201	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C1202	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1203	ECEA1AKA220	E. CAPACITOR 10V 22U	1	
C1204	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C2505	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C2506	ECEA1HKNR47	E. CAPACITOR 50V 0.47U	1	
C2507-10	ECUM1H563ZFN	C. CAPACITOR CH 50V 0.056U	4	
C2512	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C2513	ECEA1EKA4R7	E. CAPACITOR 25V 4.7U	1	
C2514	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C2517	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C2519	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C2520	ECUX1H392KBN	C. CAPACITOR CH 50V 3900P	1	
C2523	ECEA1EKA470	E. CAPACITOR 25V 47U	1	
C2524	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C2525	ECQV1H683JM	P. CAPACITOR 50V 0.068U	1	
C2526-28	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	3	
C2530	ECEA1VKN4R7	E. CAPACITOR 35V 4.7U	1	
C2531	ECUM1H473ZFN	C. CAPACITOR CH 50V 0.047U	1	
C2532, 33	ECEA1VKN4R7	E. CAPACITOR 35V 4.7U	2	
C2535, 36	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C3002	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C3003	ECUM1H681JCN	C. CAPACITOR CH 50V 680P	1	
C3007	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3008	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3009	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3010	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C3011, 12	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C3013	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
C3014	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C3015, 16	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	2	
C3018	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3019	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C3020	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C3021	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C3022	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C3023	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3024	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C3025	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3026	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C3027, 28	ECEA1CKA100	E. CAPACITOR 16V 10U	2	
C3029	ECUX1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C3030	ECEA1EKA4R7	E. CAPACITOR 25V 4.7U	1	
C3031	ECEA1EKN4R7	E. CAPACITOR 25V 4.7U	1	
C3032	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3033	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3035, 36	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C3037	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C3038	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C3039	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3040, 41	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	2	
C3042	ECUM1H223ZFN	C. CAPACITOR CH 50V 0.022U	1	
C3043	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C3044, 45	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C3051	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3052	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3053	ECUM1H152KBN	C. CAPACITOR CH 50V 1500P	1	
C3054	ECUX1H392KBN	C. CAPACITOR CH 50V 3900P	1	
C3055	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C3056	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
C3057	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C3058, 59	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	2	
C3060	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3061	ECEA1EKA4R7	E. CAPACITOR 25V 4.7U	1	
C3062	ECUM1H390JCN	C. CAPACITOR CH 50V 39P	1	
C3063	ECUM1H102GCN	C. CAPACITOR CH 50V 1000P	1	[SUPPLIED FROM MBV]
C3065	ECUX1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C3066	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C3067	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C3068	ECUM1H681GCN	C. CAPACITOR CH 50V 680P	1	[SUPPLIED FROM MBV]
C3069	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
C3070, 71	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	2	
C3072	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3074	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3075	ECUX1C474KBN	C. CAPACITOR CH 16V 0.47U	1	
C3076	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C3077	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C3078	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3079	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C3080	ECUM1E333KBN	C. CAPACITOR CH 25V 0.033U	1	
C3081	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C3082	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C3083	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
C3085	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C3086	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3087	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3088	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3090	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C3092	ECUM1H681JCN	C. CAPACITOR CH 50V 680P	1	
C3094	ECUM1H620JCN	C. CAPACITOR CH 50V 62P	1	
C3095	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C3096	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3097	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C3099	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3101, 02	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C3103	ECUM1H683ZFN	C. CAPACITOR CH 50V 0.068U	1	
C3901	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C3902, 03	ECEA1CKA100	E. CAPACITOR 16V 10U	2	
C3904	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C3905	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C4002	ECUM1H152JCN	C. CAPACITOR CH 50V 1500P	1	
C4003	ECUX1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C4004	ECEA0JKA331	E. CAPACITOR 6.3V 330U	1	
C4005	ECQB1H223JF	P. CAPACITOR 50V 0.022U	1	
C4006, 07	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	2	
C4008, 09	ECEA1CKA220	E. CAPACITOR 16V 22U	2	
C4010	ECUM1H182JN	C. CAPACITOR CH 50V 1800P	1	
C4011	ECEA1HKA4R7	E. CAPACITOR 50V 4.7U	1	
C4012	ECUM1H222JN	C. CAPACITOR CH 50V 2200P	1	
C4013	ECUM1H473KBN	C. CAPACITOR CH 50V 0.047U	1	
C4014	ECEA1CKA100	E. CAPACITOR 16V 10U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C4015	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C4016, 17	ECUM1H153KBN	C CAPACITOR CH 50V 0.015U	2	
C4019	ECUM1H822KBN	C. CAPACITOR CH 50V 8200P	1	
C4020	ECEA1HKA4R7	E. CAPACITOR 50V 4.7U	1	
C4022	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C4023	ECEA1AKA101	E. CAPACITOR 10V 100U	1	
C4024, 25	ECQV1H104B46	P. CAPACITOR 50V 0.1U	2	
C4026	ECEA1AKA220	E. CAPACITOR 10V 22U	1	
C4028	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C4904	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C4905	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C4906	ECEA1CKN100	E. CAPACITOR 16V 10U	1	
C4907	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C4908	ECUM1H181JCN	C CAPACITOR CH 50V 180P	1	
C4909, 10	ECEA1CKN100	E. CAPACITOR 16V 10U	2	
C4911	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C4914	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4915	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C4916	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4917	ECEA1AKA470	E CAPACITOR 10V 47U	1	
C4918-21	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	4	
C6001	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C6002, 03	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	2	
C6004	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C6005	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C6007	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C6009	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C6011	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C6013	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C6016	ECUM1H104ZFN	C CAPACITOR CH 50V 0.1U	1	
C6020	ECUM1H104ZFN	C CAPACITOR CH 50V 0.1U	1	
C7501	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7502	ECEA1HKA100	E. CAPACITOR 50V 10U	1	
C7505	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7506	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C7508	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7513	ECUM1H104ZFN	C CAPACITOR CH 50V 0.1U	1	
C7514	VCE0073	SUPER CAPACITOR	1	
C7515	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C7517	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7601	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7602	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7604	ECEA0JKA101	E CAPACITOR 6.3V 100U	1	
C7607	ECUM1H104ZFN	C CAPACITOR CH 50V 0.1U	1	
C7608	ECEA1HKA100	E CAPACITOR 50V 10U	1	
C7610	ECEA0JKA101	E CAPACITOR 6.3V 100U	1	
C7611	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7614	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7615, 16	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	2	
C7617	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C7618	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7701	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7702, 03	ECUM1H104ZFN	C CAPACITOR CH 50V 0.1U	2	
C7704	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7705	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7706	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7707	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7708, 09	ECUM1H151JCN	C CAPACITOR CH 50V 150P	2	
C7710	ECUX1C474ZFN	C CAPACITOR CH 16V 0.47U	1	
C7711	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7712	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C7713	ECUX1E333ZFN	C. CAPACITOR CH 25V 0.033U	1	
C7715	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7716	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C7717	ECUM1H103ZFN	C CAPACITOR CH 50V 0.01U	1	
C7718	ECEA1HKA010	E CAPACITOR 50V 1U	1	
C7719	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7722	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7723	ECEA1EKA4R7	E. CAPACITOR 25V 4.7U	1	
C7724	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C7725	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C7726, 27	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7728	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C7729	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7730	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C7731	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C7733, 34	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	2	
C7735, 36	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7737	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7738	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7739	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7740	ECUM1H101JCN	C CAPACITOR CH 50V 100P	1	
C7741, 42	ECUM1H104ZFN	C CAPACITOR CH 50V 0.1U	2	
C7745	ECUM1H820JCN	C CAPACITOR CH 50V 82P	1	
C7746, 47	ECUM1H104ZFN	C CAPACITOR CH 50V 0.1U	2	
D1003	1SS254	DIODE	1	
D1004	MA4051-M	DIODE	1	
D1005	1SS254	DIODE	1	
D1006	MA4120-M	DIODE	1	
D1009	MA4051-M	DIODE	1	
D1010	1SS254	DIODE	1	
D1011, 12	11ES1	DIODE	2	
D1013	1SS254	DIODE	1	
D1015	1SS254	DIODE	1	
D1016	MA723-VT	DIODE	1	
D1501	SIR505S	DIODE	1	
D2501	MA723-VT	DIODE	1	
D2502-04	1SS254	DIODE	3	
D2506-08	MA151WK	DIODE	3	
D2509	MA151K	DIODE	1	
D3009	ERDS2TJ101	C. RESISTOR 1/4W 100	1	
D3010	1SS254	DIODE	1	
D3014	1SS254	DIODE	1	
D3015	MA151K	DIODE	1	
D3016	MA151WA	DIODE	1	
D3901, 02	MA4056-M	DIODE	2	
D4903	1SS254	DIODE	1	
D4904	MA4120-M	DIODE	1	
D4905	1SS254	DIODE	1	
D4907	MA4056-M	DIODE	1	
D6001	1SS254	DIODE	1	
D7521	MA4220-L	DIODE	1	
D7523	MA723-VT	DIODE	1	
D7601	MA4300-M	DIODE	1	
D7602, 03	1SS254	DIODE	2	
D7701	MA151WK	DIODE	1	
D7702	MA153	DIODE	1	
D7705	1SS355	DIODE	1	
DP7501	VSL0505	DISPLAY TUBE	1	[SUPPLIED FROM MBV]
IC0701	LA7576	IC	1	
IC1001	PQ20VB2E	IC	1	[SUPPLIED FROM MBV]
IC1201	UPC1093J	IC	1	
IC1501, 02	RP1354N	IC	2	
IC2501	BA10358F	IC NJM2904M (VED)	1	[SUPPLIED FROM MBV]
IC2502	AN3814K	IC	1	
IC3001	TDA9725V2	IC	1	[SUPPLIED FROM MBV]
IC3002	TL8850AF	IC	1	
IC4001	BA7795FS	IC	1	
IC4901	HCF4053BM1	IC MC14053BF (VED)	1	[SUPPLIED FROM MBV]
IC4902, 03	HCF4052BM1	IC MC14052BF (VED)	2	[SUPPLIED FROM MBV]
IC4904	NJM4558M	IC	1	
IC6001	M37777V1CJ	IC	1	[SUPPLIED FROM MBV]
IC7501	M35500AFP	IC	1	[SUPPLIED FROM MBV]
IC7502	S80743AL	IC	1	
IC7503	PST7028	IC	1	
IC7504	PNA4611M02VT	IR RECEIVER UNIT	1	[SUPPLIED FROM MBV]
IC7701	NJM2246M	IC	1	[SUPPLIED FROM MBV]
IC7702	SDA5650	IC	1	[SUPPLIED FROM MBV]
IC7703	M35062WVAR	IC	1	[SUPPLIED FROM MBV]
IC7704	M24C16-WBN6	IC ST24W16FB6 (VED)	1	[SUPPLIED FROM MBV]
IC7705	M30612VCGZ	IC	1	[SUPPLIED FROM MBV]
⚠ IP1001	UNH000300A	IC PROTECTOR	1	
⚠ IP1201, 02	UNH000300A	IC PROTECTOR	2	
⚠ IP7601	VSF0015A025	IC PROTECTOR	1	[SUPPLIED FROM MBV]
JK4902	VJS3634	21PIN SCART JACK	1	[SUPPLIED FROM MBV]

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
K0702,03	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
K0706	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K3002	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K3007	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K5501	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K6002	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7506	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
K7704	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
L0701	VLQ0163JR15	COIL 0.15UH	1	
L0706	VLQEL05S8R2K	COIL 8.2UH	1	
L0707	ELJFA100KB	COIL 10UH	1	
L2502	VLQ0599J101	COIL 100UH	1	
L3001	VLQ0599J100	COIL 10UH	1	
L3002	VLQ0599J270	COIL 27UH	1	
L3003	VLQ0599J470	COIL 47UH	1	
L3006,07	VLQ0599J390	COIL 39UH	2	
L3008	VLQ0599J680	COIL 68UH	1	
L3010	VLQ0599J390	COIL 39UH	1	
L3013	VLQ0599J820	COIL 82UH	1	
L3014	VLQ0599J100	COIL 10UH	1	
L3015	VLQ0599J470	COIL 47UH	1	
L3016	VLQ0599J121	COIL 120UH	1	
L3017	VLQ0599J820	COIL 82UH	1	
L3018	VLQ0599J151	COIL 150UH	1	
L3019	VLQ0599J120	COIL 12UH	1	
L3020	VLQ0599J101	COIL 100UH	1	
L3021	VLQ0599J270	COIL 27UH	1	
L3022	VLQ0599J6R8	COIL 6.8UH	1	
L3024	ELESN391KA	INDUCTOR 390UH	1	
L3901	VLQ0599J330	COIL 33UH	1	
L4001	VLQ0599J680	COIL 68UH	1	
L4002	ELELN103JA	COIL	1	[SUPPLIED FROM MBV]
L4901	VLQ0599J330	COIL 33UH	1	
L7601	VLQ0599J330	COIL 33UH	1	
L7602	VLQ0599J2R7	COIL 2.7UH	1	
L7603	VLQ0599J330	COIL 33UH	1	
L7605	ELESN330KA	COIL 33UH	1	
L7606	ELESE680KA	INDUCTOR 68UH	1	
L7701,02	ELESE390KA	INDUCTOR 39UH	2	
L7707	ELESE100KA	INDUCTOR 10UH	1	
L7708	ELESE101KA	INDUCTOR 100UH	1	
LB3001,02	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	2	
LB3003	VLP0145	COIL	1	
LB3004	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
LB3005	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
LB3006,07	VLP0145	COIL	2	
LB3901	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
LB4901-04	VLP0147	COIL	4	
LB7501	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
LB7701	VLP0145	COIL	1	
P1001	VJS3917A016W	CONNECTOR (FEMALE) 16P	1	
P1501	VJS3837A002	CONNECTOR (FEMALE) 2P	1	
P2501	VJP3835A012	CONNECTOR (MALE) 12P	1	
P2502	VJS3537A009G	CONNECTOR (FEMALE) 9P	1	
P3001	VJS3537A011G	CONNECTOR (FEMALE) 11P	1	
P4001	VJS3837A002	CONNECTOR (FEMALE) 2P	1	
P4002	VJS3537A006G	CONNECTOR (FEMALE) 6P	1	
P7502	VJS3537A006G	CONNECTOR (FEMALE) 6P	1	
PK0701	VJR0816E010W	CONNECTOR (MALE) 10P	1	
PP0701	VJP3589A004B	CONNECTOR (MALE) 4P	1	
PP7701	VJP3043G015W	CONNECTOR (MALE) 15P	1	[SUPPLIED FROM MBV]
PP7702	VJP3043G014W	CONNECTOR (MALE) 14P	1	
PS7701	VJS3043B015W	CONNECTOR (FEMALE) 15P	1	[SUPPLIED FROM MBV]
PS7702	VJS3043B014W	CONNECTOR (FEMALE) 14P	1	[SUPPLIED FROM MBV]
Q0701	MSD601-S	TRANSISTOR	1	
Q1001	2SD601A	TRANSISTOR	1	
Q1002	2SD602A	TRANSISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q1003	2SD1996	TRANSISTOR	1	
Q1004	2SB710A	TRANSISTOR	1	
Q1005	2SD2544OPQA	TRANSISTOR	1	
Q1006	2SD1996	TRANSISTOR	1	
Q1201	2SD2259	TRANSISTOR	1	
Q1202	2SD1996	TRANSISTOR	1	
Q1501	PNB2301MBV	TRANSISTOR	1	
Q1502	PNB2301MAV	TRANSISTOR	1	
Q1503	2SD601A	TRANSISTOR	1	
Q3001,02	2SD601A	TRANSISTOR	2	
Q3003	MSC2295-G	TRANSISTOR	1	
Q3004	2SB709A	TRANSISTOR	1	
Q3005	2SD601A	TRANSISTOR	1	
Q3008	MSC2295-G	TRANSISTOR	1	
Q3012,13	2SD601A	TRANSISTOR	2	
Q3014	2SB709A	TRANSISTOR	1	
Q3015	2SB709A-R	TRANSISTOR	1	
Q3017	MSC2295-G	TRANSISTOR	1	
Q3018	2SD601A	TRANSISTOR	1	
Q3021	MSC2295-G	TRANSISTOR	1	
Q3022	2SB709A	TRANSISTOR	1	
Q3023,24	MSC2295-G	TRANSISTOR	2	
Q3901,02	2SD601A	TRANSISTOR	2	
Q3903	MSD1328-R	TRANSISTOR	1	[SUPPLIED FROM MBV]
Q3904	2SB709A	TRANSISTOR	1	
Q3905	2SD601A	TRANSISTOR	1	
Q3906	2SB709A	TRANSISTOR	1	
Q3907	2SD601A	TRANSISTOR	1	
Q3908	2SB709A	TRANSISTOR	1	
Q4001	2SB710-QR	TRANSISTOR	1	[SUPPLIED FROM MBV]
Q4002	2SD602A-QR	TRANSISTOR	1	[SUPPLIED FROM MBV]
Q4003	2SD601A	TRANSISTOR	1	
Q4904,05	2SD601A	TRANSISTOR	2	
Q5502	2SD601A	TRANSISTOR	1	
Q7501	2SB709A	TRANSISTOR	1	
Q7502	2SD1994	TRANSISTOR	1	
Q7601	2SD601A	TRANSISTOR	1	
Q7602,03	2SD1328-S	TRANSISTOR	2	
Q7701	2SB709A	TRANSISTOR	1	
Q7702,03	2SD601A	TRANSISTOR	2	
Q7704	2SB709A	TRANSISTOR	1	
Q7705,06	2SD601A	TRANSISTOR	2	
Q7709-11	2SD601A	TRANSISTOR	3	
Q7712,13	2SB709A	TRANSISTOR	2	
QR1001	MUN2112	TRANSISTOR-RESISTOR	1	
QR1002	MUN2213	TRANSISTOR-RESISTOR	1	
QR1003	MUN2211	TRANSISTOR-RESISTOR	1	
QR1005	MUN2213	TRANSISTOR-RESISTOR	1	
QR1501	MUN2112	TRANSISTOR-RESISTOR	1	
QR2504	MUN2213	TRANSISTOR-RESISTOR	1	
QR3001	MUN2213	TRANSISTOR-RESISTOR	1	
QR3002	MUN2113	TRANSISTOR-RESISTOR	1	
QR3006	UN2210	TRANSISTOR-RESISTOR	1	
QR3007	MUN2113	TRANSISTOR-RESISTOR	1	
QR3009,10	MUN2113	TRANSISTOR-RESISTOR	2	
QR3012,13	DTC363EK	TRANSISTOR-RESISTOR	2	
QR4001	MUN2212	TRANSISTOR-RESISTOR	1	
QR4002	MUN2112	TRANSISTOR-RESISTOR	1	
QR4901	MUN2212	TRANSISTOR-RESISTOR	1	
QR4904	MUN2111	TRANSISTOR-RESISTOR	1	
QR4905	MUN2212	TRANSISTOR-RESISTOR	1	
QR4906,07	UN2217	TRANSISTOR-RESISTOR	2	
QR6001	MUN2111	TRANSISTOR-RESISTOR	1	
QR6002	MUN2211	TRANSISTOR-RESISTOR	1	
QR7601	MUN2213	TRANSISTOR-RESISTOR	1	
R0702	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R0703	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R0704	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0705	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0706,07	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2	
R0708	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R0709	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R0710	ERJ6GEYG154	M.RESISTOR CH 1/10W 150K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R0713	ERJ3GEYJ301	M.RESISTOR CH 1/16W 300	1	
R0714	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R0715	ERJ3GEYJ432	M.RESISTOR CH 1/16W 4.3K	1	
R0716	VRE0040E151	M.RESISTOR CH 1/10W 150	1	
R0717	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R0718	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0719	ERJ6GEYG752	M.RESISTOR CH 1/10W 7.5K	1	
R0720	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0721	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R0722	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R0723	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0724	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R0725	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R0726	ERJ3GEYG561	M.RESISTOR CH 1/16W 560	1	[SUPPLIED FROM MBV]
R0727	ERJ3GEYG162	M.RESISTOR CH 1/16W 1.6K	1	[SUPPLIED FROM MBV]
R0732	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R0783	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R1001.02	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	2	
R1003.04	ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	2	
R1005	ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
R1006	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R1007.08	ERDS2TJ822	C.RESISTOR 1/4W 8.2K	2	
R1009.10	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R1011	ERJ6GMYG823	M.RESISTOR CH 1/10W 82K	1	
R1012	ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R1013	ERJ6GMYG153	M.RESISTOR CH 1/10W 15K	1	
R1014	ERJ6GMYG163	M.RESISTOR CH 1/10W 16K	1	
R1015	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R1016.17	ERJ6GMYG563	M.RESISTOR CH 1/10W 56K	2	
R1018.19	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R1021.22	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R1023	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R1201.02	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	2	
R1203	ERJ6GMYG563	M.RESISTOR CH 1/10W 56K	1	
R1204	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R1501.02	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	2	
R2504	ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2505	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R2506.07	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2510	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R2511	ERJ6GMYG433	M.RESISTOR CH 1/10W 43K	1	
R2513	ERJ6GMYJ274	M.RESISTOR CH 1/10W 270K	1	
R2514	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R2515.16	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R2518	ERDS2TJ391	C.RESISTOR 1/4W 390	1	
R2520	ERDS1TJ1R2	C.RESISTOR 1/2W 1.2	1	
R2521.22	ERDS2TJ330	C.RESISTOR 1/4W 33	2	
R2523	ERDS1TJ1R5	C.RESISTOR 1/2W 1.5	1	
R2524	ERDS2TJ330	C.RESISTOR 1/4W 33	1	
R2532	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R3001	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R3002	ERJ6GMYG182	M.RESISTOR CH 1/10W 1.8K	1	
R3003.04	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R3005	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	1	
R3006.07	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R3008	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R3009	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3011	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R3012	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3013	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
R3014	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R3015	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R3016	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R3017	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R3018	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R3019	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3020	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	1	
R3021	ERJ6GMYG470	M.RESISTOR CH 1/10W 47	1	
R3024.25	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	2	
R3026	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R3027	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R3029	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3030	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R3040	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R3043	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3044	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R3046	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R3047	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3048	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R3049	ERJ6GMYG390	M.RESISTOR CH 1/10W 39	1	
R3050	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R3051	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R3052	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R3053	ERJ6GMYG393	M.RESISTOR CH 1/10W 39K	1	
R3057	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3058	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R3060	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R3061	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R3062	ERJ6GMYG152	M.RESISTOR CH 1/10W 1.5K	1	
R3063	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R3064	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3065	ERJ6GMYG152	M.RESISTOR CH 1/10W 1.5K	1	
R3066	ERJ6GEYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R3069	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R3070	ERJ6GMYG183	M.RESISTOR CH 1/10W 18K	1	
R3071	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3072	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3073	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R3075.76	ERJ6GMYG202	M.RESISTOR CH 1/10W 2K	2	
R3077	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3078	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	1	
R3079	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3080	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3081	ERJ6GMYG152	M.RESISTOR CH 1/10W 1.5K	1	
R3082	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3084.85	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	2	
R3086	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3087	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R3088	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3089	ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R3090	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R3091	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3092	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R3093	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R3095-97	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	3	
R3098	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3901	ERJ6GMYG750	M.RESISTOR CH 1/10W 75	1	
R3902.03	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	2	
R3904	ERJ6GMYG750	M.RESISTOR CH 1/10W 75	1	
R3905	ERJ6GMYG334	M.RESISTOR CH 1/10W 330K	1	
R3906	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3907	ERJ6GMYJ911	M.RESISTOR CH 1/10W 910	1	
R3908.09	ERJ6GMYG750	M.RESISTOR CH 1/10W 75	2	
R3911.12	ERJ6GMYG121	M.RESISTOR CH 1/10W 120	2	
R3913	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
R3914	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R3915	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R3917 18	ERJ6GMYG121	M.RESISTOR CH 1/10W 120	2	
R3919	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
R3920	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R3921	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R3922	ERJ6GMYG152	M.RESISTOR CH 1/10W 1.5K	1	
R4001	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4002	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R4003	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4004	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
R4005	ERJ6GMYG100	M.RESISTOR CH 1/10W 10	1	
R4006	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R4007	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4008	ERJ6GMYG391	M.RESISTOR CH 1/10W 390	1	
R4009	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R4010	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R4011	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R4012	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4013	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R4014	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R4015	ERJ6GMYG183	M.RESISTOR CH 1/10W 18K	1	
R4016	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R4017	ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R4018	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4019	ERJ6GMYG394	M. RESISTOR CH 1/10W 390K	1	
R4020	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R4021, 22	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R4023	ERJ6GMYG912	M. RESISTOR CH 1/10W 9. 1K	1	
R4024	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R4025	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4026	ERJ6GMYG153	M. RESISTOR CH 1/10W 15K	1	
R4027	ERJ6GMYG222	M. RESISTOR CH 1/10W 2. 2K	1	
R4028	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R4029	ERJ6GEYF472	M. RESISTOR CH 1/10W 4. 7K	1	
R4031, 32	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	2	
R4033	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R4034	ERJ6GMYG222	M. RESISTOR CH 1/10W 2. 2K	1	
R4907	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	1	
R4909	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R4912	ERDS2TJ561	C. RESISTOR 1/4W 560	1	
R4913	ERJ6GEYF472	M. RESISTOR CH 1/10W 4. 7K	1	
R4914	ERJ6GMYG153	M. RESISTOR CH 1/10W 15K	1	
R4915	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R4916	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R4917, 18	ERJ6GMYG562	M. RESISTOR CH 1/10W 5. 6K	2	
R4919	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R4920, 21	ERJ6GMYG562	M. RESISTOR CH 1/10W 5. 6K	2	
R4922-24	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	3	
R4925	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R4926	ERJ6GMYG154	M. RESISTOR CH 1/10W 150K	1	
R4927, 28	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	2	
R4929, 30	ERJ6GEYF472	M. RESISTOR CH 1/10W 4. 7K	2	
R4931	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R4932	ERJ6GMYG682	M. RESISTOR CH 1/10W 6. 8K	1	
R4933	ERJ6GMYG222	M. RESISTOR CH 1/10W 2. 2K	1	
R4934	ERDS1TJ222	C. RESISTOR 1/2W 2. 2K	1	
R4935	ERJ6GMYG154	M. RESISTOR CH 1/10W 150K	1	
R4936	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R4937	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R4938-40	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	3	
R5516	ERJ6GEYF472	M. RESISTOR CH 1/10W 4. 7K	1	
R5519	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6001	ERJ6GEYF472	M. RESISTOR CH 1/10W 4. 7K	1	
R6002	ERJ6GMYG183	M. RESISTOR CH 1/10W 18K	1	
R6003	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6004, 05	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R6006	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6007	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6008, 09	ERJ6GMYG272	M. RESISTOR CH 1/10W 2. 7K	2	
R6010	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R6012, 13	ERJ6GEYF472	M. RESISTOR CH 1/10W 4. 7K	2	
R6014	ERDS2TJ181	C. RESISTOR 1/4W 180	1	
R6015, 16	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	2	
R6017	ERJ6GMYG222	M. RESISTOR CH 1/10W 2. 2K	1	
R6018	ERJ6GMYG224	M. RESISTOR CH 1/10W 220K	1	
R6019	ERJ6GMYJ106	M. RESISTOR CH 1/10W 10M	1	
R6020	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6021	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R6022	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6024	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R6025	ERDS2TJ121	C. RESISTOR 1/4W 120	1	
R6026	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R6028	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R6029	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6031	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R6032	ERJ6GMYG393	M. RESISTOR CH 1/10W 39K	1	
R6033	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R6040	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R6042	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6063	ERJ6GMYG562	M. RESISTOR CH 1/10W 5. 6K	1	
R7501	ERDS2TJ5R6	C. RESISTOR 1/4W 5. 6	1	
R7502, 03	ERJ6GMYG202	M. RESISTOR CH 1/10W 2K	2	
R7504	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7505	ERJ6GMYG432	M. RESISTOR CH 1/10W 4. 3K	1	
R7506-08	ERJ6GMYG332	M. RESISTOR CH 1/10W 3. 3K	3	
R7509	ERJ6GMYG822	M. RESISTOR CH 1/10W 8. 2K	1	
R7510	ERJ6GMYG562	M. RESISTOR CH 1/10W 5. 6K	1	
R7511	ERJ6GMYG432	M. RESISTOR CH 1/10W 4. 3K	1	
R7512	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7514	ERJ6GMYG822	M. RESISTOR CH 1/10W 8. 2K	1	
R7515	ERJ6GMYG562	M. RESISTOR CH 1/10W 5. 6K	1	
R7516	ERJ6GMYG432	M. RESISTOR CH 1/10W 4. 3K	1	
R7517	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R7520, 21	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R7523-25	ERJ6GMYJ303	M. RESISTOR CH 1/10W 30K	3	
R7527	ERJ6GMYJ181	M. RESISTOR CH 1/10W 180	1	
R7528	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7529	ERDS2TJ471	C. RESISTOR 1/4W 470	1	
R7531, 32	ERJ6GMYG332	M. RESISTOR CH 1/10W 3. 3K	2	
R7533	ERJ6GMYJ303	M. RESISTOR CH 1/10W 30K	1	
R7534	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R7535	ERJ6GMYG332	M. RESISTOR CH 1/10W 3. 3K	1	
R7539-42	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	4	
R7601, 02	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	2	
R7603	ERDS2TJ911	C. RESISTOR 1/4W 910	1	
R7605, 06	ERG2SJ331	M. RESISTOR 2W 330	2	
R7607, 08	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	2	
R7609, 10	ERJ6GMYG151	M. RESISTOR CH 1/10W 150	2	
R7611	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7612	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R7613, 14	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	2	
R7620	ERDS2TJ471	C. RESISTOR 1/4W 470	1	
R7621	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7622, 23	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	2	
R7701	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R7702	ERJ6GEYG680	M. RESISTOR CH 1/10W 68	1	
R7703	ERJ6GEYF822	M. RESISTOR CH 1/10W 8. 2K	1	
R7704	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R7705	ERJ6GEYG222	M. RESISTOR CH 1/10W 2. 2K	1	
R7706	ERJ6GEYG564	M. RESISTOR CH 1/10W 560K	1	
R7707	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R7708	ERJ6GEYG682	M. RESISTOR CH 1/10W 6. 8K	1	
R7709	ERJ6GEYJ125	M. RESISTOR CH 1/10W 1. 2M	1	
R7710	ERJ6GEYG682	M. RESISTOR CH 1/10W 6. 8K	1	
R7711	ERJ6GEYJ125	M. RESISTOR CH 1/10W 1. 2M	1	
R7712	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R7713-15	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	3	
R7716	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	1	
R7717	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R7718	ERJ6GEYG821	M. RESISTOR CH 1/10W 820	1	
R7719	ERJ6GEYG222	M. RESISTOR CH 1/10W 2. 2K	1	
R7720	ERJ6GEYG392	M. RESISTOR CH 1/10W 3. 9K	1	
R7722	ERJ6GEYJ112	M. RESISTOR CH 1/10W 1. 1K	1	
R7723	ERJ6GEYF822	M. RESISTOR CH 1/10W 8. 2K	1	
R7726	ERJ6GEYG222	M. RESISTOR CH 1/10W 2. 2K	1	
R7727, 28	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R7732	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R7733	ERJ6GEYG682	M. RESISTOR CH 1/10W 6. 8K	1	
R7734	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R7735	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R7736	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R7737	ERJ6GEYF822	M. RESISTOR CH 1/10W 8. 2K	1	
R7738	ERJ6GEYG821	M. RESISTOR CH 1/10W 820	1	
R7739	ERJ6GEYG512	M. RESISTOR CH 1/10W 5. 1K	1	
R7741	ERJ6GEYG222	M. RESISTOR CH 1/10W 2. 2K	1	
R7742	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R7744	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R7745	ERJ6GEYG153	M. RESISTOR CH 1/10W 15K	1	
R7746	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R7747	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R7748	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R7749	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R7750	ERJ6GEYJ225	M. RESISTOR CH 1/10W 2. 2M	1	
R7752	ERJ6GEYG273	M. RESISTOR CH 1/10W 27K	1	
R7753	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R7754	ERJ6GEYF472	M. RESISTOR CH 1/10W 4. 7K	1	
R7755	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R7756	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R7757	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R7759-67	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	9	
R7768	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R7769	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R7770	ERJ6GEYG332	M. RESISTOR CH 1/10W 3. 3K	1	
R7771-78	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	8	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7779, 80	ERJ6GEYF472	M. RESISTOR CH 1/10W 4. 7K	2	
R7781	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
S1501	VSS0520-3	MODE SWITCH	1	[SUPPLIED FROM MBV]
S7502	EVQ11404M	SWITCH	1	
S7503, 04	EVQ11L07B	SWITCH	2	
S7505	VES0834	S-TAB SWITCH	1	
S7506, 07	EVQ11L07B	SWITCH	2	
S7509-11	EVQ11L07B	SWITCH	3	
T0703	EQV5EC071A	TRANSFORMER	1	
T0704	EQV5EC072A	TRANSFORMER	1	
T0711	EQS5EC032A	TRANSFORMER	1	
T4001	EQQ7QF024P	TRANSFORMER	1	
⚠ TU7601	ENG47280G1	TUNER	1	[SUPPLIED FROM MBV]
VR0701	EVNCBAA00B24	V. RESISTOR 20K	1	
VR3002, 03	EVNCYAA03B23	V. RESISTOR 2K	2	
VR3004, 05	EVNCYAA03B52	V. RESISTOR 500	2	
X0701	VLF1417	FILTER	1	[SUPPLIED FROM MBV]
X0702	VLF1291	FILTER	1	[SUPPLIED FROM MBV]
X0703	EFCWS2F14	FILTER	1	[SUPPLIED FROM MBV]
X0704	VLF1166	FILTER	1	[SUPPLIED FROM MBV]
X3001	VSX0162	CRYSTAL OSCILLATOR	1	
X6001	VSX0830	CRYSTAL OSCILLATOR	1	
X6002	VSX0660	CRYSTAL OSCILLATOR	1	
X7701	VSX0934	CERAMIC OSCILLATOR	1	[SUPPLIED FROM MBV]
ZB7501	VXQ0648	FIP HOLDER	1	
		MISCELLANEOUS		
	VMP4471	TV DEMODULATOR ANGLE	1	FOR TV DEMODULATOR C. B. A
■	VEP05362A	HEAD AMP C. B. A.		[SUPPLIED FROM MBV] (RTL)
C502	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C504	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C505	ECEA0JKA470	E. CAPACITOR 6. 3V 47U	1	
C506	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	1	
C507-10	ECUX1C474KBN	C. CAPACITOR CH 16V 0. 47U	4	
IC501	AN3368SB	IC	1	
L501	VLQ0599J680	COIL 68UH	1	
LB501-04	VLP0145	COIL	4	
P501	VJS3537B011G	CONNECTOR (FEMALE) 11P	1	
P502	VJS3069T	CONNECTOR (FEMALE) 8P	1	
R505	ERDS2TJ101	C. RESISTOR 1/4W 100	1	
ZA501	VSC4563	SHIELD CASE (TOP)	1	
ZA502	VSC4792	SHIELD CASE (BOTTOM)	1	[SUPPLIED FROM MBV]
■	VEP06C31A	AV FRONT C. B. A.		[SUPPLIED FROM MBV] (RTL)
C6502	ECKF1H821KB	C. CAPACITOR 50V 820P	1	
C6503	ECQV1H104JM	P. CAPACITOR 50V 0. 1U	1	
D6501-03	SLR932AVA	DIODE	3	[SUPPLIED FROM MBV]
JK6501	VJJ0575	RCA JACK (2P)	1	[SUPPLIED FROM MBV]
P6501	VJS3537A006G	CONNECTOR (FEMALE) 6P	1	
R6501	ERDS2TJ750	C. RESISTOR 1/4W 75	1	
R6503	ERDS2TJ102	C. RESISTOR 1/4W 1K	1	
R6504	ERDS2TJ150	C. RESISTOR 1/4W 15	1	
ZB6501, 02	VMD0504	LED HOLDER	2	
ZB6503	VMD2591	LED HOLDER	1	[SUPPLIED FROM MBV]
⚠ ■	VEP01826A	POWER C. B. A.		[SUPPLIED FROM MBV] (RTL)
⚠ C1101	ECKMWS102MEF	C. CAPACITOR 1000P	1	
C1102	ECQV1H104JM	P. CAPACITOR 50V 0. 1U	1	
⚠ C1104	ECKMWS102MEF	C. CAPACITOR 1000P	1	
C1106	ECQE6104KF	P. CAPACITOR 630V 0. 1U	1	
⚠ C1107	ECKMWS102MEF	C. CAPACITOR 1000P	1	
C1108	ECCD3A470KGE	C. CAPACITOR 1KV 47P	1	[SUPPLIED FROM MBV]
C1109	ECKD2H103PU	C. CAPACITOR 500V 0. 01U	1	
C1110	ECEA0JGE331	E CAPACITOR 6. 3V 330U	1	
C1111	ECKF1H102KB	C CAPACITOR 50V 1000P	1	
C1112	ECQB1H822JF	P CAPACITOR 50V 8200P	1	
C1114	ECA1VGE470X	E CAPACITOR 35V 47U	1	
⚠ C1118, 19	ECQU2A104MVA	P CAPACITOR 250V 0 1U	2	
C1120	ECEC2GG330	E CAPACITOR 400V 33U	1	
C1131	EEUFA1E681	E CAPASITOR 25V 680U	1	
C1132	EEUFA1E331	E CAPASITOR 25V 330U	1	
C1134	EEUFA1A122	E CAPASITOR 10V 1200U	1	
C1135	ECEA1AGE331	E CAPACITOR 10V 330U	1	
C1137	ECEA1HGE470	E CAPACITOR 50V 47U	1	
C1138	ECKF1H103ZF	C CAPACITOR 50V 0 01U	1	
C1139	ECKD2H101KB	C CAPACITOR 500V 100P	1	
C1140	ECEA1HGE101	E CAPACITOR 50V 100U	1	
C1141	ECKF1H103ZF	C CAPACITOR 50V 0. 01U	1	
C1143	ECA1AFZ331	E CAPACITOR 10V 330U	1	
D1102	S1WBA60S	DIODE	1	
D1103	AP01C	DIODE	1	
D1104	MA185	DIODE	1	
D1105	MA700	DIODE	1	
D1106	MA4220-H	DIODE	1	
D1107	1SS254	DIODE	1	
D1109, 10	ERA15-08	DIODE	2	
D1114	RK36	DIODE	1	
D1118	RD100E	DIODE	1	
D1121	RL2ZP	DIODE	1	
D1123, 24	ERA22-04	DIODE	2	
D1125	11EQS04	DIODE	1	
D1130	MA730OB	DIODE	1	
⚠ F1101	XBA2C16TH15	FUSE	1	
IC1101	STRM6559LF	IC	1	
IC1102	UPC1093J	IC	1	
⚠ IP1101	VSF0015A10	IC PROTECTOR	1	
⚠ L1107	ELF15N005A	LINE FILTER	1	[SUPPLIED FROM MBV]
⚠ L1108	ELF17N004A	LINE FILTER	1	[SUPPLIED FROM MBV]
L1121, 22	VLQ0655K220	COIL 22UH	2	
L1123, 24	ELESE101KA	INDUCTOR 100UH	2	
LB1101, 02	VLP0056	COIL	2	
LB1105	VLP0056	COIL	1	
LB1107	VLP0056	COIL	1	
⚠ P1101	VJS3306	AC INLET	1	
P1103	VJP3917A016G	CONNECTOR (MALE) 16P	1	
⚠ Q1111	CNX82A5387	PHOTO COUPLER	1	[SUPPLIED FROM MBV]
R1101	ERDS2TJ561	C. RESISTOR 1/4W 560	1	
R1102	ERG1SJ393	M. RESISTOR 1W 39K	1	
R1105	ERDS1TJ395	C. RESISTOR 1/2W 3. 9M	1	
R1106	ERDS1TJ475	C. RESISTOR 1/2W 4. 7M	1	
R1107	ERDS2FJ224	C. RESISTOR 1/4W 220K	1	
R1108	ERDS2FJ101	C. RESISTOR 1/4W 100	1	
R1109	ERDS2FJ152	C. RESISTOR 1/4W 1. 5K	1	
R1110	ERDS2FJ103	C. RESISTOR 1/4W 10K	1	
R1111	ERDS2FJ181	C. RESISTOR 1/4W 180	1	[SUPPLIED FROM MBV]
R1112	ERDS2FJ331	C. RESISTOR 1/4W 330	1	
R1113	ERX1SJ1R0	M. RESISTOR 1W 1. 0	1	[SUPPLIED FROM MBV]

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R1114	ERDS2FJ332	C.RESISTOR 1/4W 3.3K	1	
R1115	ERDS2FJ330	C.RESISTOR 1/4W 33	1	[SUPPLIED FROM MBV]
R1116	ERDS2TJ272	C.RESISTOR 1/4W 2.7K	1	[SUPPLIED FROM MBV]
R1119	ERDS2TJ822	C.RESISTOR 1/4W 8.2K	1	
R1120,21	ERQS2CKG2701	M.RESISTOR 1/4W 2.7K	2	[SUPPLIED FROM MBV]
⚠ R1122	ERG12AGM334	S.RESISTOR 1/2W 330K	1	
R1125	ERDS2TJ271	C.RESISTOR 1/4W 270	1	
S7511-14	EVQ11L07B	SWITCH	4	
⚠ T1101	VLT0910	TRANSFORMER	1	[SUPPLIED FROM MBV]
ZA1101	VSC4205	SHIELD COVER	1	
ZA1102	VMP5133	INLET ANGLE	1	
ZA1103	VHD0418	SCREW	1	
ZA1104,05	EYF52BC	FUSE HOLDER	2	
⚠ ZB1101	VMZ2378	BARRIER	1	
⚠ ZB1103-05	VMZ2212	CAPACITOR COVER	3	
■	----------	CYLINDER STATOR C.B.A.		
		MISCELLANEOUS		
	HW-300A-CF	HALL IC	1	
	VJS3537B009G	CONNECTOR (FEMALE) 9P	1	
■	----------	RT CONNECTION C.B.A.		
		MISCELLANEOUS		
	VJP3578	CONNECTOR (MALE) 8P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

MEMO

INTERNAL REFERENCE CODES

NOTE: This chart is only for internal reference.
Do not order any parts according to these codes.

P. C. B.	FILM CODE
SYUGOU (MAIN, HEAD AMP)	FUAI00–0495A
POWER	FUAI00–01826
TV DEMODULATOR PACK	FUAI00–07801
OSD PACK	FUAI00–07974
AV FRONT	FUAI01–06C31

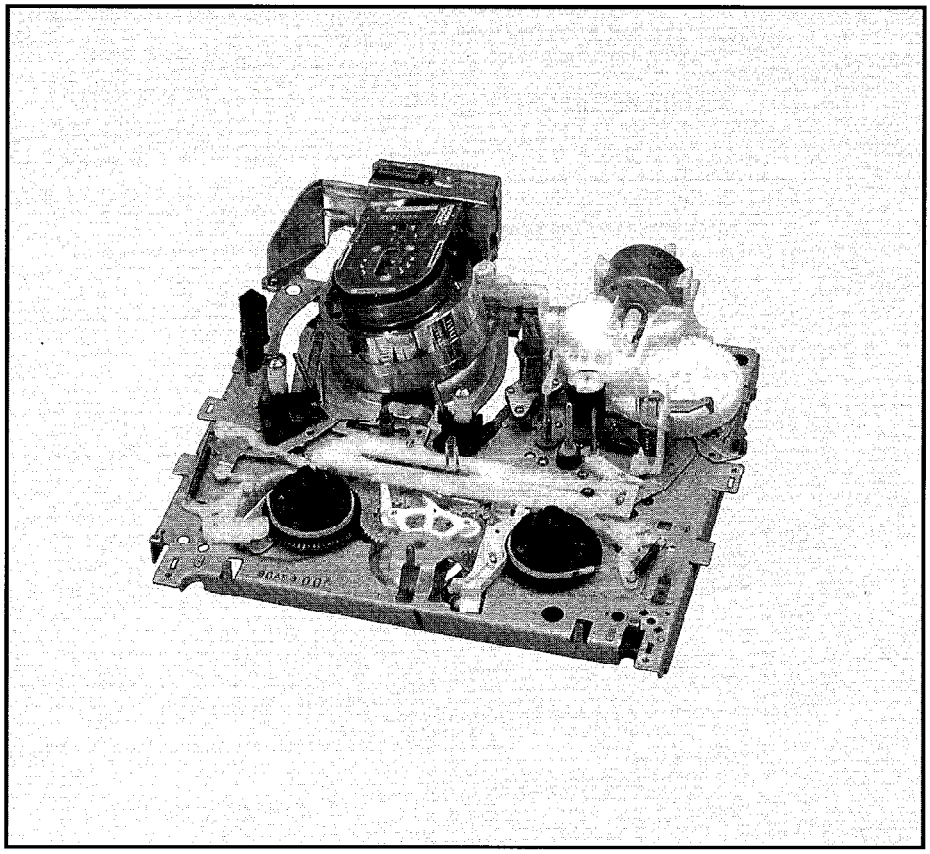
ORDER NO. VRD9612M129

Service Manual

Video Cassette Recorder

Panasonic VHS

Z-MECHANISM CHASSIS



INTRODUCTION

The Z-Mechanism chassis are built in several Panasonic VHS Video Cassette Recorders from NV-SD series in 1996.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

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1. OUTLINE OF Z MECHANISM

1-1. The tape transport path

(1) Mechanism Chassis

Aluminium Chassis has been changed to sheet metal (Thickness: 1.2 mm).

(2) Capstan position (Cassette-in method/Capstan-in method)

The Tape does not touch the Cassette tape so that the rationalization has been promoted such as Reel gear pinch up/down mechanism has been deleted.

(3) Deletion of P1 post

FE Head has been installed Limiter so that P1 post has been deleted.

(4) A/C Head base combined with P4 post

A/C Head has been combined with P4 post on the same base.

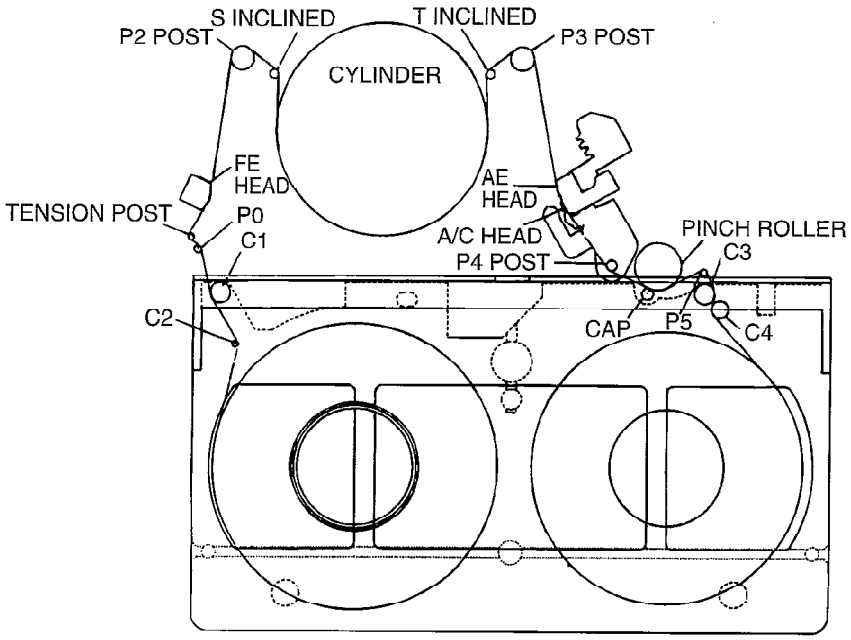
(5) Change of A/C head base type

The change of the angle winding the tape on A/C head has been reduced by the construction of A/C head base has been changed from the revolution type to slide base type.

(6) Improvement of P5 post

P5 post operation has been changed by non-adjustable of the Height and the Tilt adjustment so that the specification has been improved.

Z Mechanism tape transport path in REV mode



1-2. Cassette holder unit

(1) Cassette-in operation

The Rack drive arm drives Main Cam gear by inserting the cassette tape. Consequently, Position switch detects the cassette-in mode so that Loading motor drives. The mode goes to the Stop mode from the Cassette-in through the Loading mode.

① The parts quantity reduction of Cassette holder unit.
(Z Mechanism: 21 pieces, K Mechanism: 36 pieces)
a. Release lever has been installed in Right Side Plate.
b. Cassette guide has been installed in Front Panel unit.
c. Safety lever spring is made by the resin.
d. Opener lever has been changed into the single opener type.
e. One side of Side Plate unit is hung on Chassis in order to fix it.

② Improvement of the cassette insertion
(The force of the cassette insertion Z Mechanism: Approximately 400gm.,
K Mechanism: Approximately 600gm.)
The tooth pitch of Worm gear which has been extended against the previous model, is located on the Motor so that Worm gear can be reversed. Consequently, the Motor rotates before the insertion spring (the combined spring) is working when the cassette tape is inserted, so that the repelled force of the insertion spring has been reduced as differing from the present model.

③ Small-sized Cassette holder unit (Thinned unit)
a. The Wiper arm method which has been adopted, assigned Wiper arm between Cassette Holder Plate and Side Plate so that the small-sized of the width has been realized.
b. To prevent the increment of parts quantity such as Safety lever is used for Pre-open mechanism shown in the present model, and the small-sized unit has been realized by inclining one portion of the L groove in Side Plate.
c. The part of driving change-over is located in the nearest to the center of Reel so that the depth size is compacter.

1-3. Reel brake

(1) Supply Reel Brake is used for Tension Regulator which is composed of the conventional Main brake and the soft brake function.

(2) Take-up Reel Brake is used as Band Brake unit in order to correspond with Supply Reel Brake.

※ Tension Regulator performance:
This is composed of Tension regulator and brake. The tape always is given the tension against the advance direction by Tension band.

(3) Construction of Supply reel tension regulator
Comparison of the construction with the conventional model

	Z Mechanism	K Mechanism
Tension Arm Shaft Bearing construction	Resin	Tension arm
Tension Band	Felt less Lumiller	Felt Lumiller
Braking method	Tension regulator	Main & soft brake

Operating mode and necessary function

Mechanism mode	Necessary function	Operation
Cassette down	Prevention of the tape slag (Soft brake)	Soft brake
Completion of Loading	Prevention of the tape slag (Soft brake)	Tension regulator
REV	Prevention of in Play mode to REV mode (Soft brake)	Tension regulator
PLAY, FF	Back tension adjustment	Same as the conventional
STOP	Main brake function	Tension regulator

(4) Construction of Take-up brake

Take-up brake is used Band brake as well as Supply brake depend on corresponding with Band brake is adopted at the Supply Side.

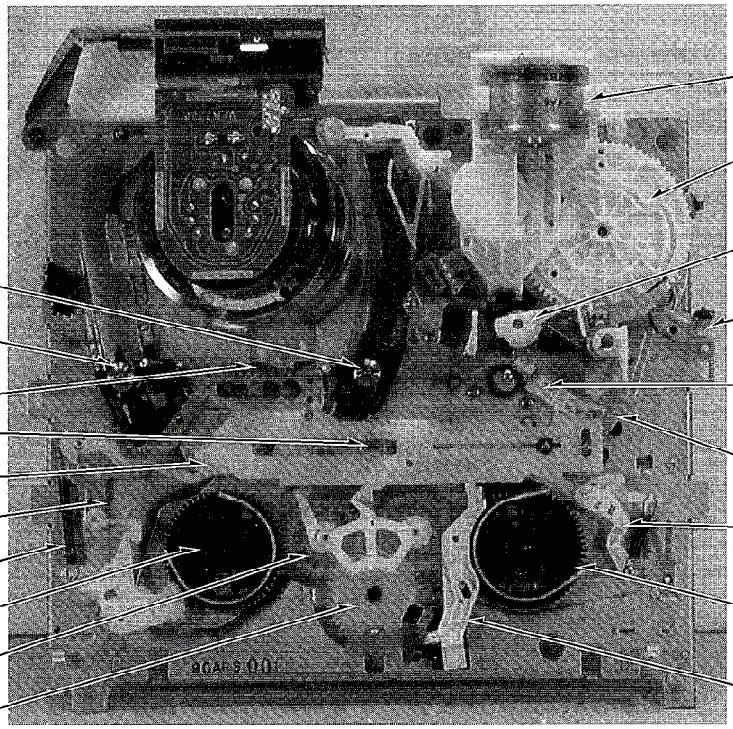
Mechanism mode	Function	Band
EJECT-MID	Soft brake	On
REV	Soft brake	On
PLAY	Release of brake	Off
STOP	Brake	On
FF/REW	Release of brake	Off

1-4. Number of Gear Phase Alignment Point and Replacement Parts

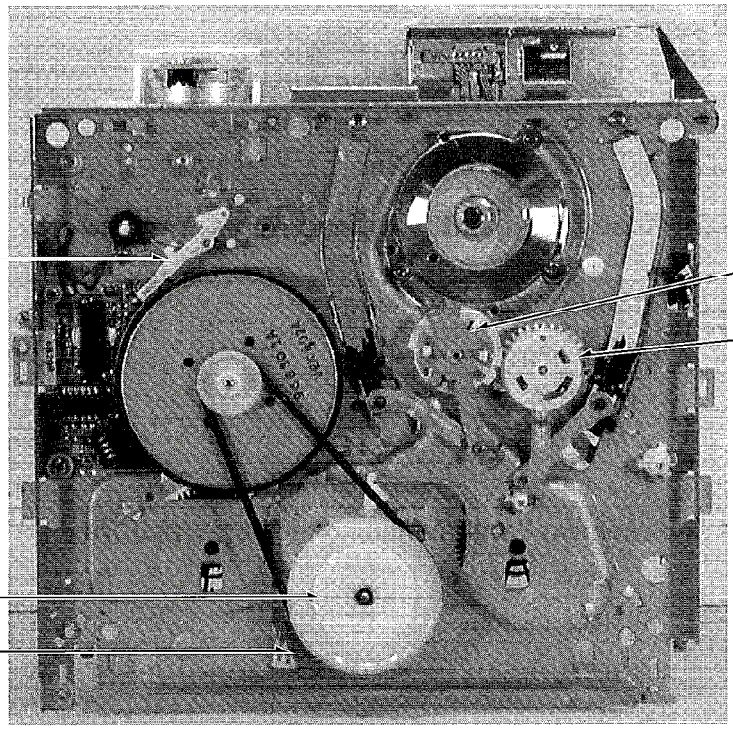
Number of Gear Phase Alignment Point	
G2 Mechanism	12 Alignment Points
G Mechanism	12 Alignment Points
K Mechanism	6 Alignment Points
Z Mechanism	4 Alignment Points
Number of Replacement Parts (including the Screw and Washer)	
G2 Mechanism	Approx.170 Pieces
G Mechanism	Approx. 150 Pieces
K Mechanism	Approx. 100 Pieces
Z Mechanism	Approx. 70 Pieces

Z Mechanism Components

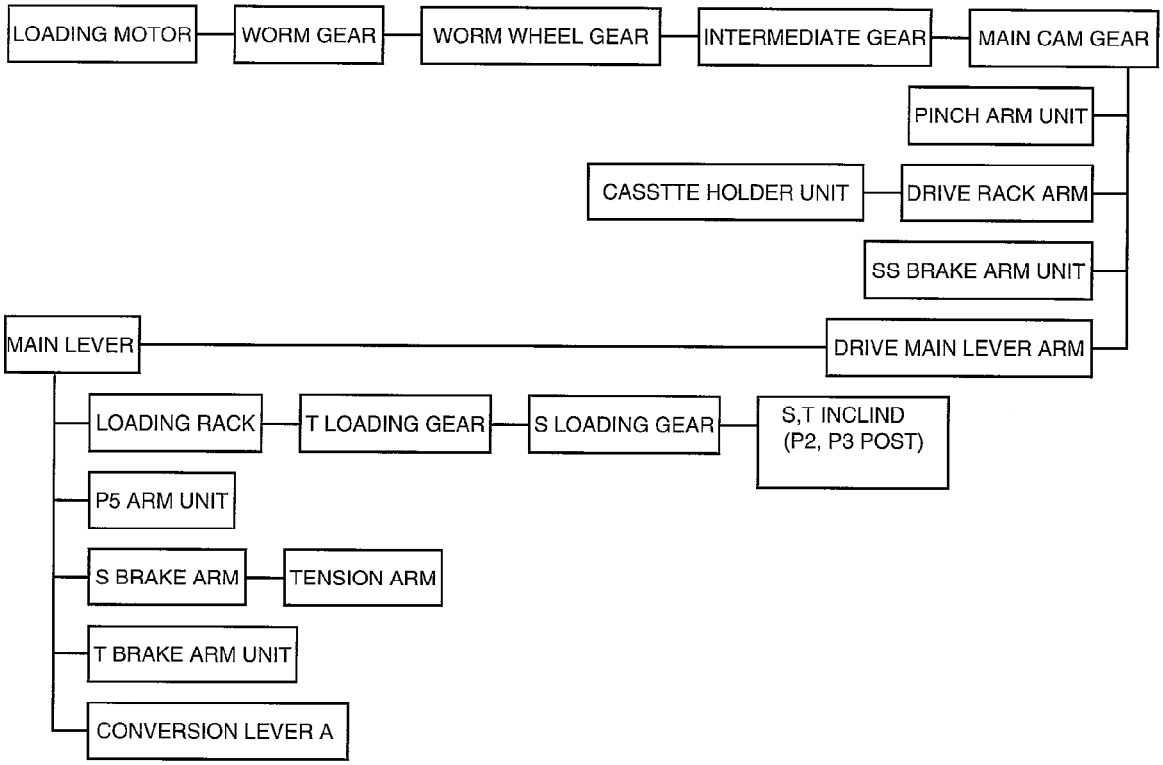
TOP VIEW

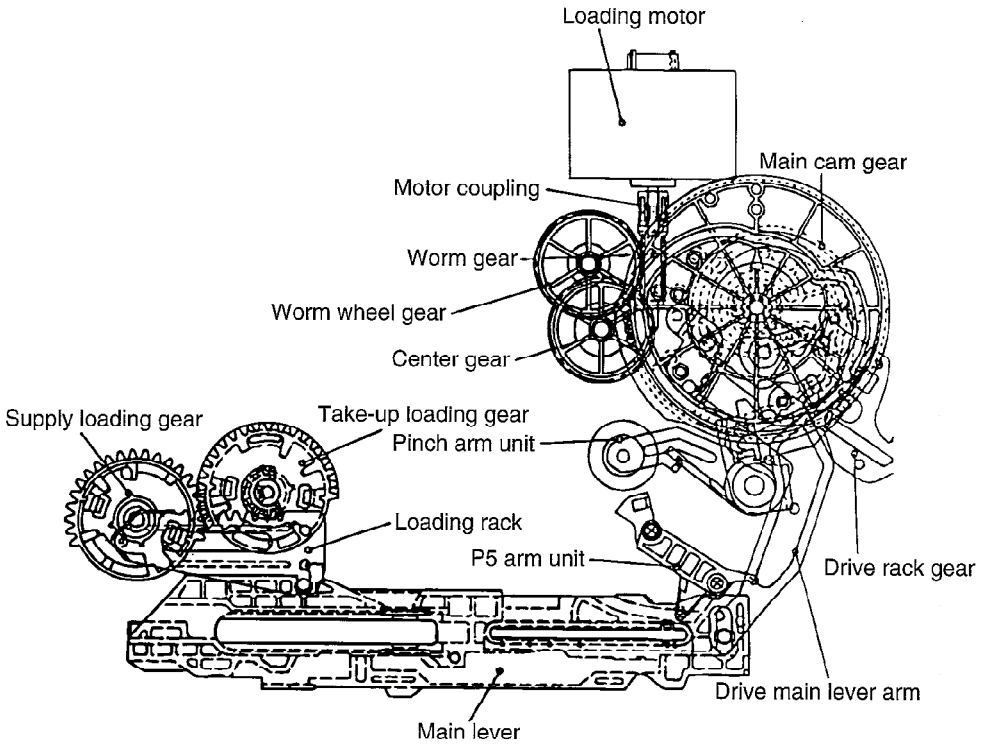


BOTTOM VIEW



FLOW CHART OF LOADING MECHANISM





2. REMOVAL OF CASSETTE TAPE

There are 2 ways to remove a cassette tape.

2-1. Removal of compulsory loading

(1) Press FF, REW and EJECT buttons simultaneously and set the Service Mode 7

(2) Press STOP button in order to unload the mechanism. (Pay an attention of tape slag)
Service Mode Indication :
7 ※※ ※※ (STOP)→7 00 ※※ (EJECT)

2-2 Removal of manual operation of Main cam gear

(1) Disconnect the AC power cord and remove Top Panel.

(2) Rotate Main cam gear to the clockwise and unload the mechanism (Tape is remaining) (Fig. A1).

TOP VIEW

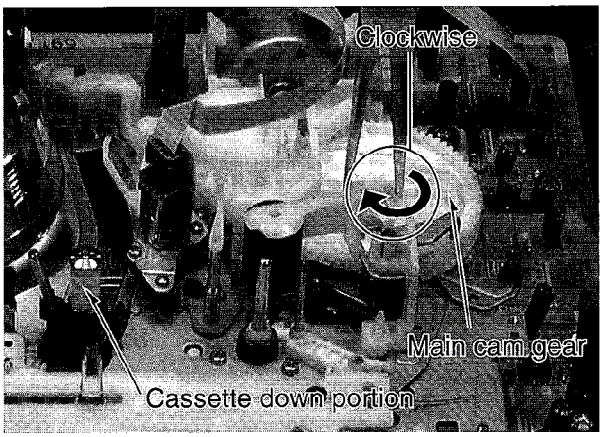


Fig. A1

(3) Rotate the Pole of Capstan motor to the clockwise from the bottom in order to remove the tape slag (Fig. A2).

BOTTOM VIEW

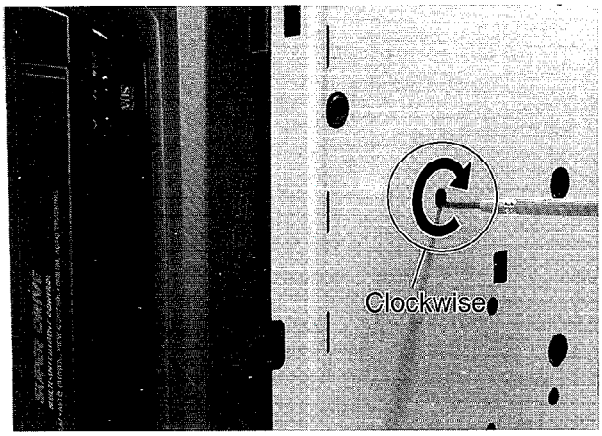


Fig. A2

(4) Rotate Main cam gear to the clockwise in order to eject the cassette tape.

3. REMOVAL OF CASSETTE HOLDER UNIT & MECHANISM CHASSIS

3-1. Removal of Cassette holder unit

(1) Remove Top panel and Front panel unit (Fig. B1)

TOP VIEW

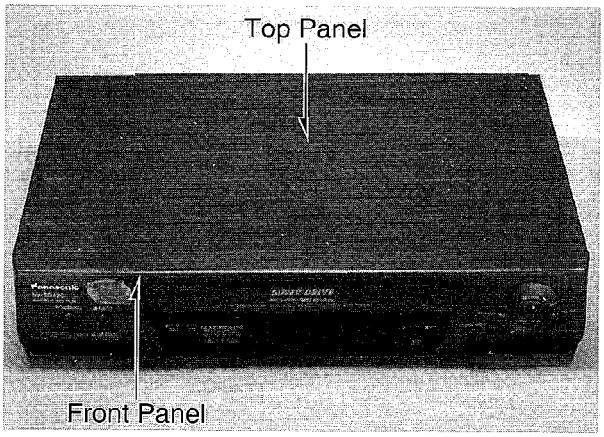


Fig. B1

(2) Remove Top plate

Remove 4 tabs fixing Top plate and remove Top plate (Fig. B2).

※ 4 Tabs should be removed softly duc to they are fragile.

TOP VIEW

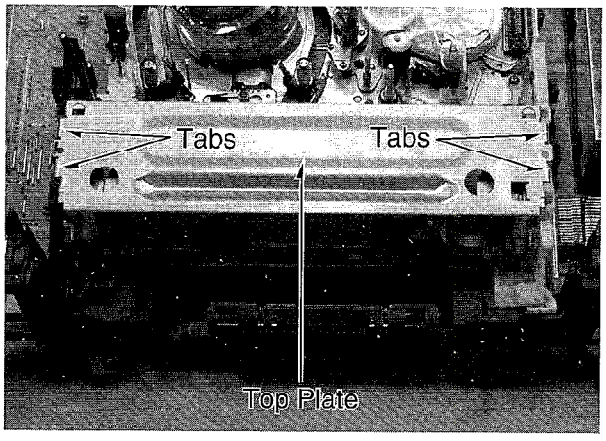


Fig. B2

(3) Remove Casscttc Holder Plate

Keep pressing 2 stoppers on Cassette holder Plate and Press Cassette holder plate to the rear and remove it from Left and Right Side Plate (Fig. B3).

TOP VIEW

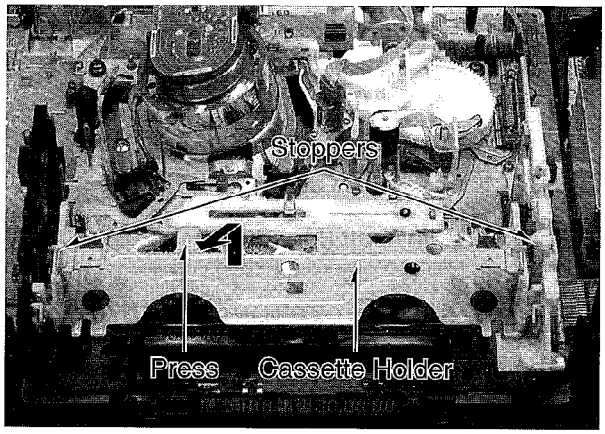


Fig. B3

(4) Remove Left and Right Side Plate

Remove Conjuction spring of Drive gear.

Remove 3 red screws, 3 tabs and remove Left and Right Side Plate (Fig. B4, B5).

TOP VIEW

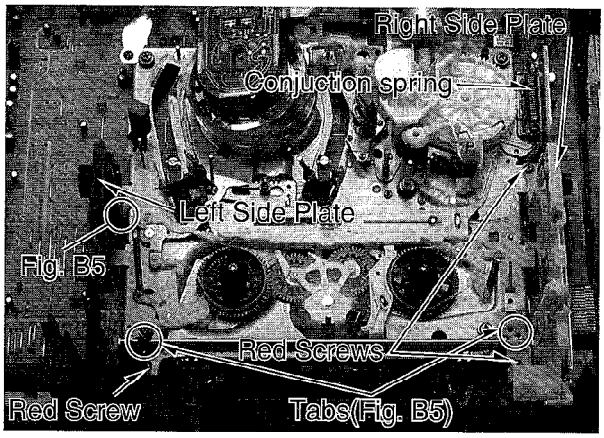


Fig. B4

TOP VIEW

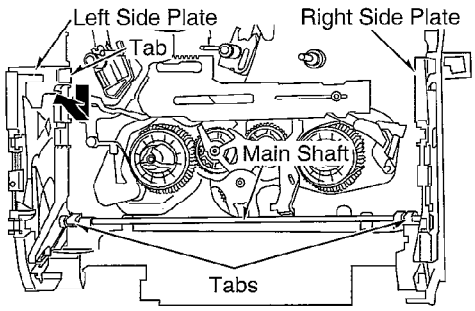


Fig. B5

(5) Remove Main shaft (Fig. B6)

TOP VIEW

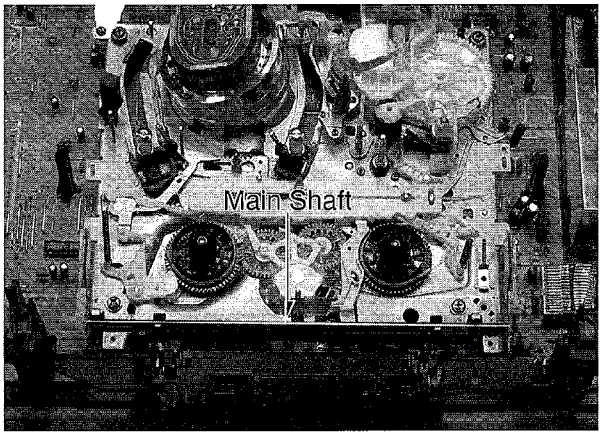


Fig. B6

3-2. Removal of Mechanism chassis

(1) Remove Mechanism chassis

Disconnect P3001, P2502 and P4001. Remove 5 screws (3 red screws and 2 gold screws) on Mechanism chassis and take out Mechanism chassis (Fig. B7).

TOP VIEW

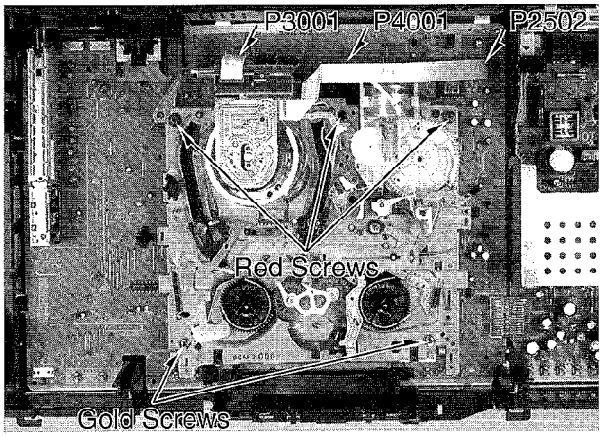


Fig. B7

4. DISASSEMBLY/ASSEMBLY METHOD FOR MECHANISM

4-1. Disassembly of mechanism

1. Removal of Pinch arm

   Unlock the tab (opener space). Remove Opener space and Pinch arm (Fig. C1).

2. Removal of Loading motor unit

   Unlock 3 tabs and remove Loading motor unit (Fig. C1 C2)

   2 tabs of them located on the bottom of the Mechanism (Fig. C2).

TOP VIEW

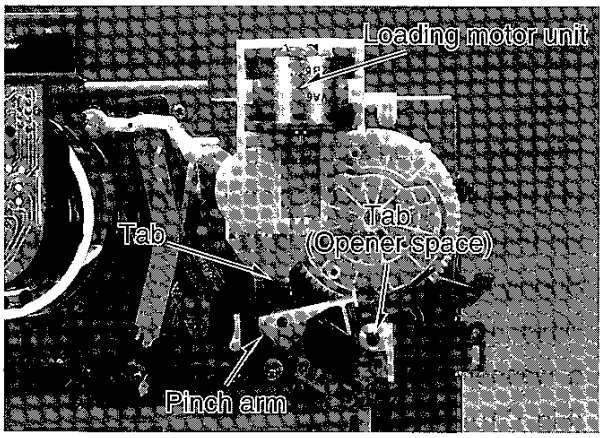


Fig. C1

BOTTOM VIEW

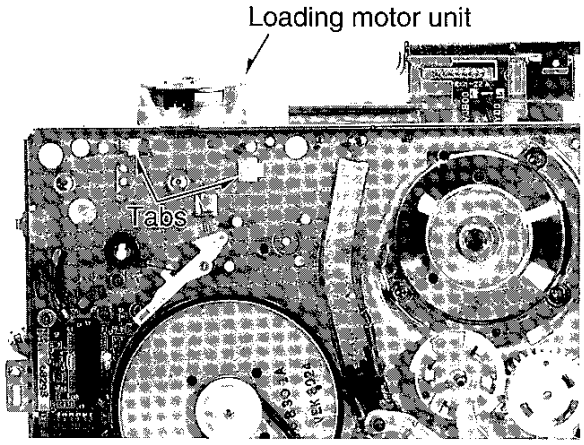


Fig. C2

3. Removal of Main cam gear

   Remove Snap washer located on the bottom of Chassis by using retaining ring remover (Fig. C3) and remove Main cam gear (Fig. C4).

BOTTOM VIEW

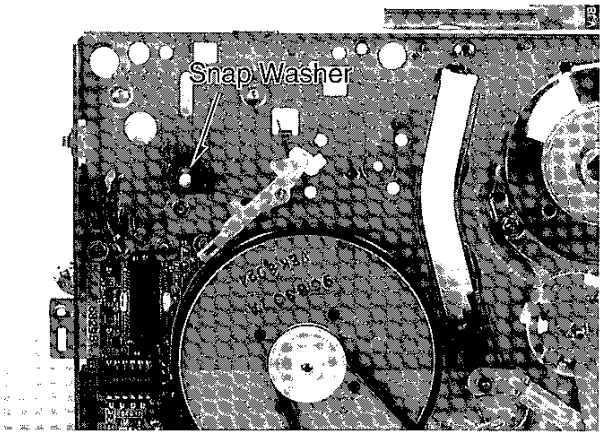


Fig. C3

TOP VIEW

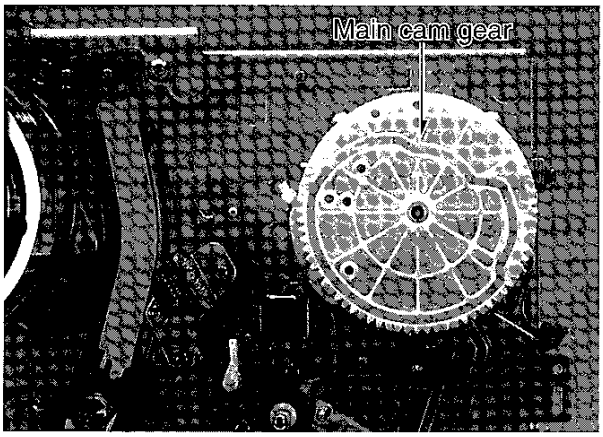


Fig. C4

4. Removal of Drive rack arm

Rotate Drive rack arm to the counterclockwise and remove it (Fig. C5)

TOP VIEW

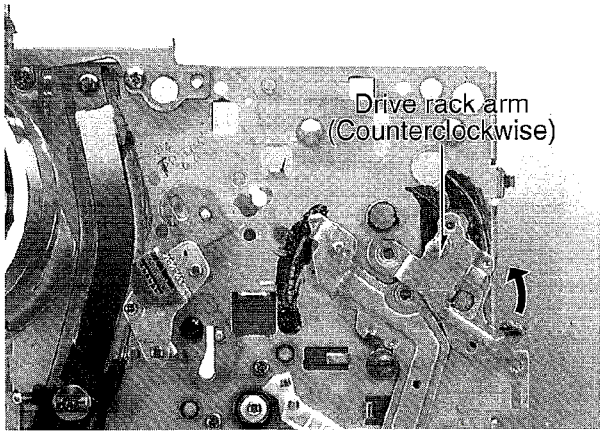


Fig. C5

5. Removal of Main lever, P5 arm and Conversion lever A

Removal cut washer located on the main lever. Unlock 2 tabs of Prism LED and 1 tab on the projection of Chassis while keep lifting the left side of Main lever, and remove Main lever, P5 arm and Conversion lever A (Fig. C6).

※ It is easier to unlock the tabs by using a tweezer.

TOP VIEW

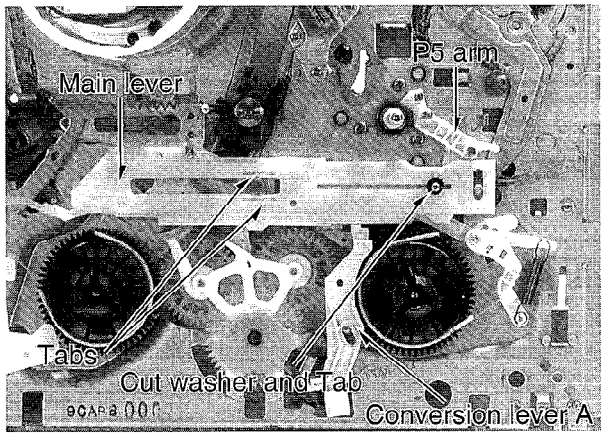


Fig. C6

6. Removal of Drive main lever arm

Rotate Drive main lever arm to the counterclockwise and remove it (Fig. C7).

TOP VIEW

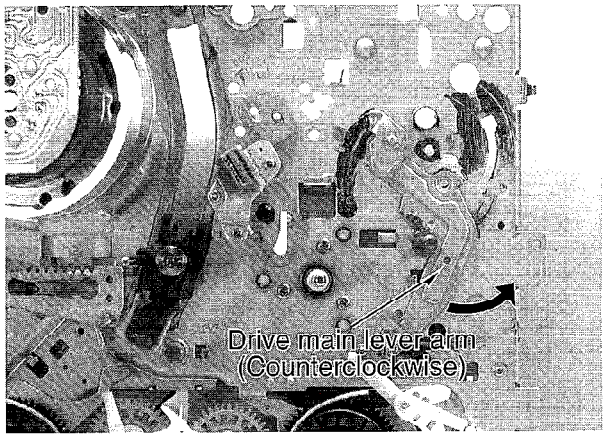


Fig. C7

7 Removal of Tension arm unit and Supply reel table

Remove Tension spring (Fig. C8). Unlock the tab of Tension arm projection on the bottom of Chassis (Fig. C9) and remove Tension arm unit and Supply reel table (Fig. C8).

※ When remove supply reel table, be sure whether a washer attaches on Supply reel table shaft (Fig. C10).

TOP VIEW

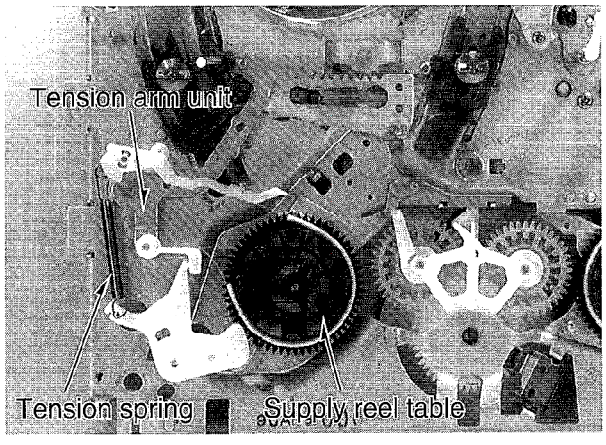


Fig. C8

BOTTOM VIEW

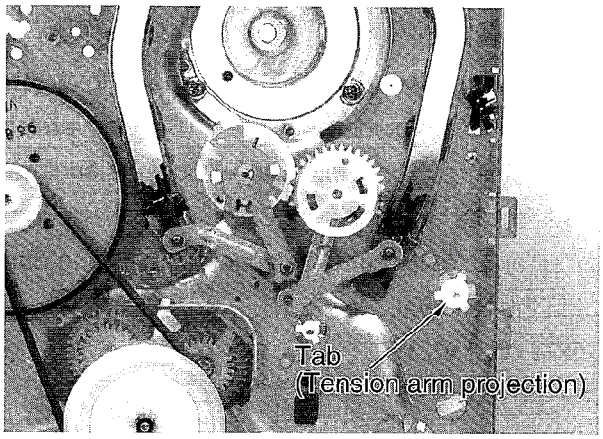


Fig. C9

TOP VIEW

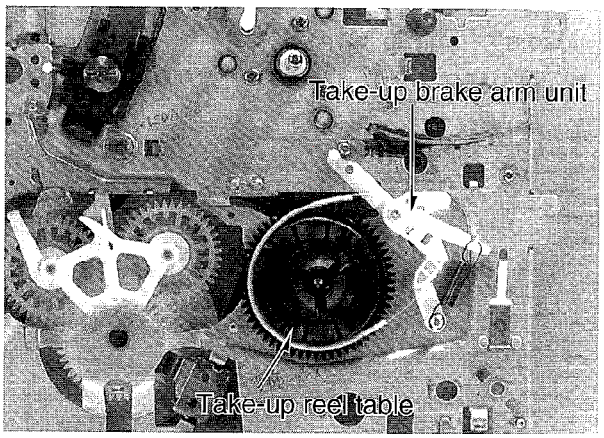


Fig. C11

SIDE VIEW

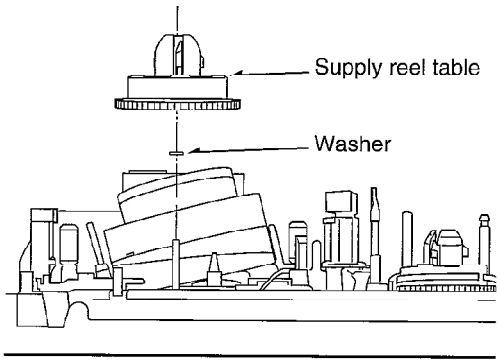


Fig. C10

8 Remove of Take-up brake arm unit and Take-up reel table

Unlock the tab of Take-up brake arm unit from the bottom of Chassis (Fig. C12). Remove Take-up brake arm unit and Take-up reel table (Fig. C11).

※ When remove Take-up reel table, be sure whether a washer attaches on Take-up reel table shaft (Fig. C13).

BOTTOM VIEW

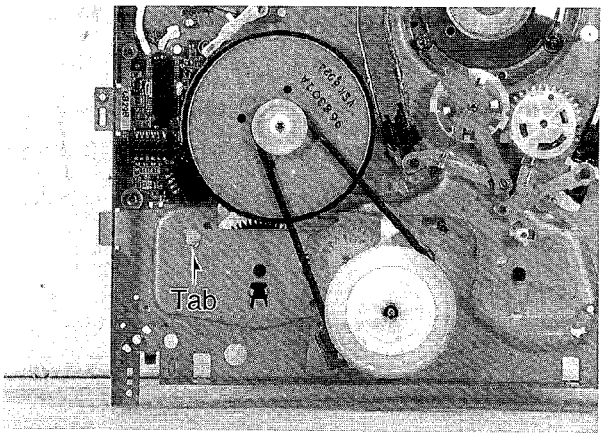


Fig. C12

SIDE VIEW

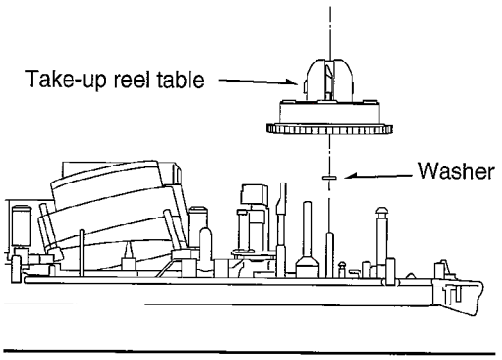


Fig. C13

9. Removal of Take-up & Supply loading arm
Unlock the tab and remove Take-up and Supply loading arm (Fig. C14).

BOTTOM VIEW

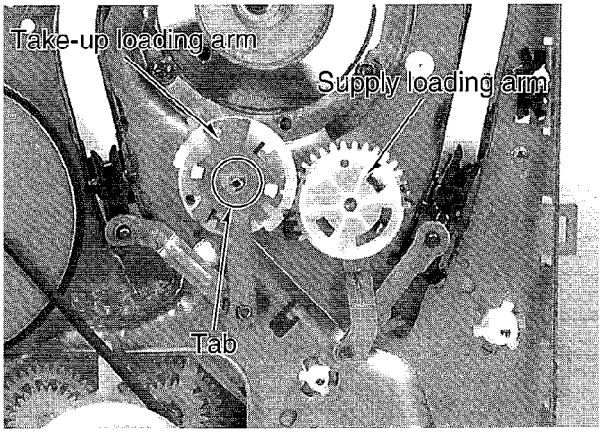


Fig. C14

10 Removal of Prism LED, Take-up & Supply shaft holder and Loading rack
Push the tab of Prism LED and remove Prism LED Remove Take-up and Supply shaft holder from the groove of Chassis and remove Loading rack (Fig. C15).

TOP VIEW

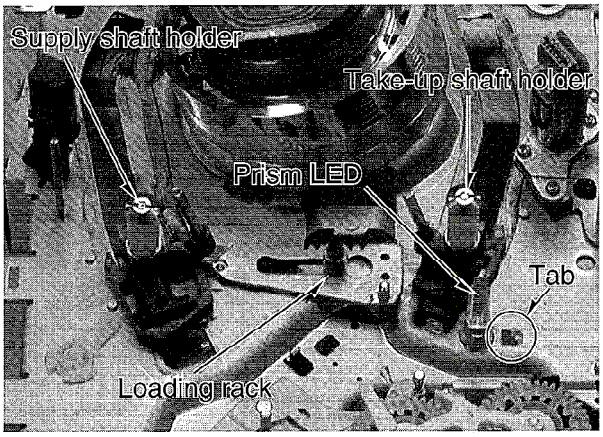


Fig. C15

11. Removal of Center clutch, Conversion gear spring, Conversion gear, Conversion lever B and Idler arm unit
Remove the Belt and the Cut washer (Fig. C16).
Remove Center clutch (Fig. C16) Conversion gear spring, Conversion gear, Conversion lever B and Idler arm unit (Fig. C17).

※ Pay an attention of Conversion gear spring during the removal.

BOTTOM VIEW

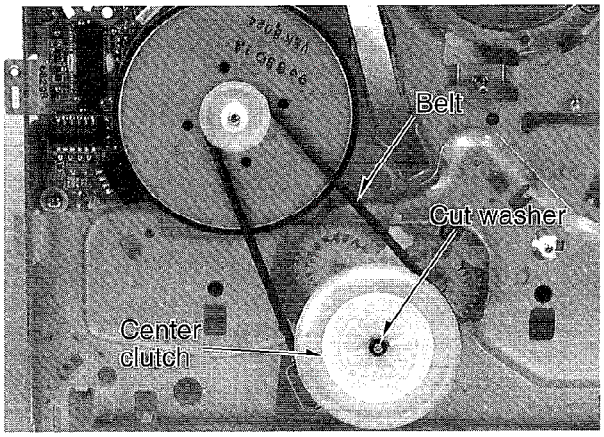


Fig. C16

BOTTOM VIEW

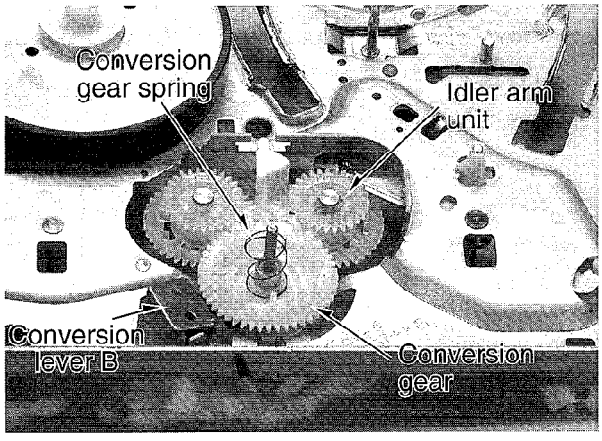


Fig. C17

12. Removal of Capstan unit

Remove 3 gold screws (Fig. C18).

Remove 2 gold screws on the bottom of Chassis (Fig. C19)

Keep moving SS brake arm and remove Capstan unit.

TOP VIEW

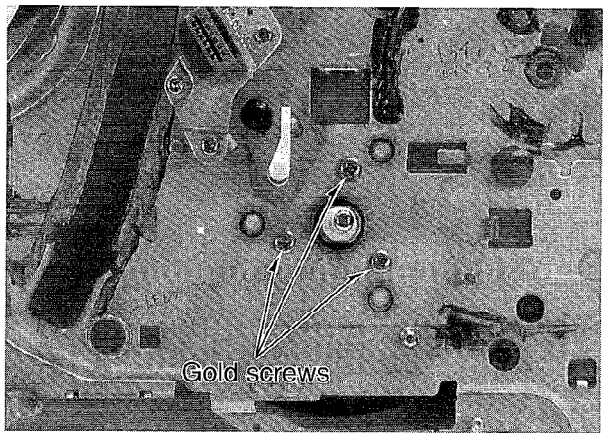


Fig. C18

BOTTOM VIEW

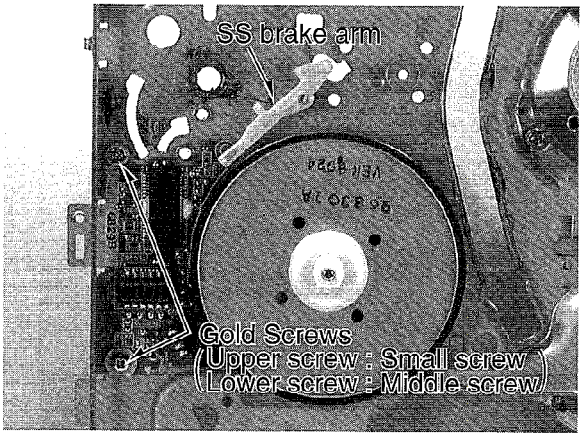


Fig. C19

13. Removal of Cylinder unit

Removal red screw (Fig. C20).

Remove 3 gold screws on the bottom of Chassis and remove Cylinder unit (Fig. C21).

TOP VIEW

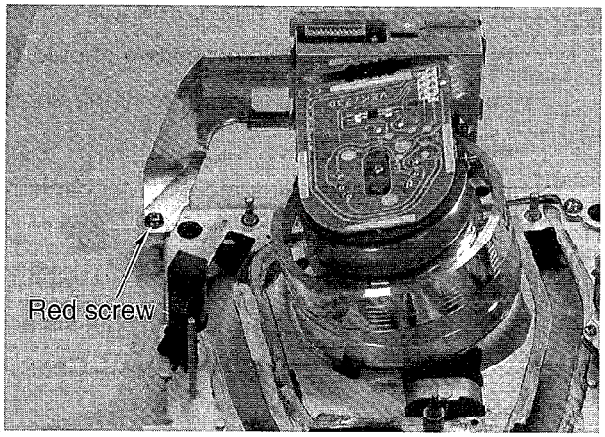


Fig. C20

BOTTOM VIEW

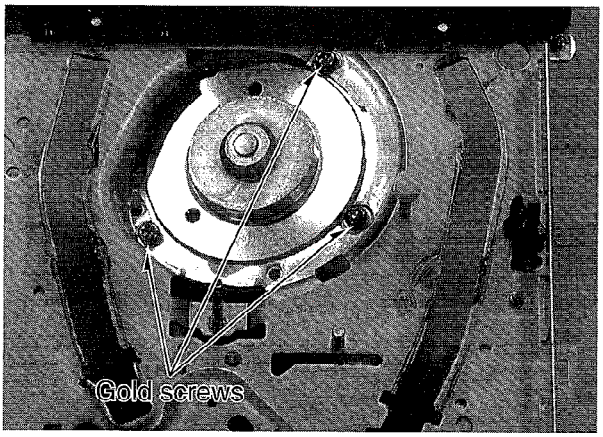


Fig. C21

4-2. Assembly and phase adjustment of mechanism

The gear phase alignment has been performed in the EJECT position and it is crucial for the Z Mechanism to operate correctly.

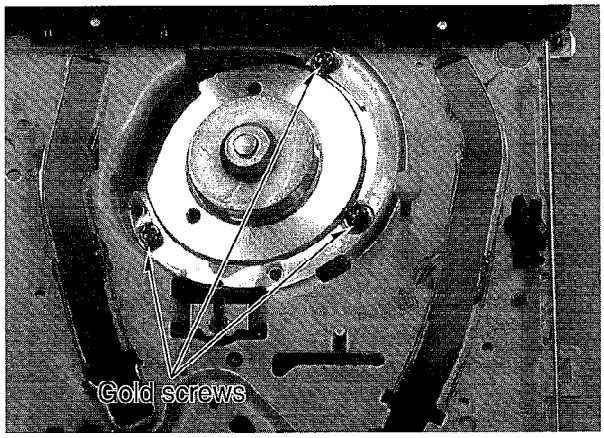
NOTE: In case of the parts replacement like Position switch, Mechanism position should be set to Eject position in order to fit the phase of Position switch

1 Assembly and phase adjustment of Mechanism

(1) Assembly of Cylinder unit

Cylinder unit should be fixed by 3 screws (GOLD) from the bottom side of Mechanism chassis and red screw on the top side of Mechanism Chassis (Fig. E1, E2).

BOTTOM VIEW



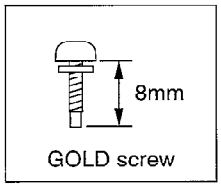
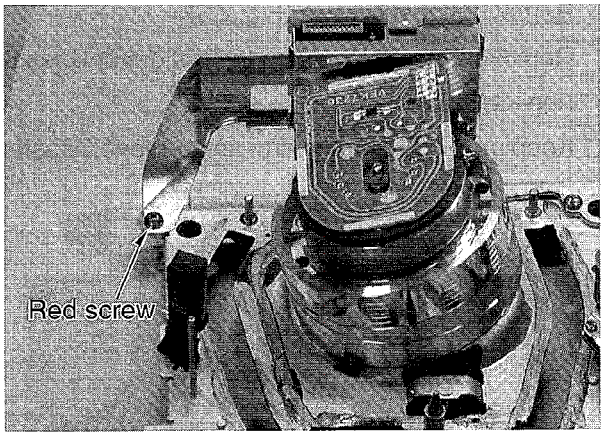


Fig. E1

TOP VIEW



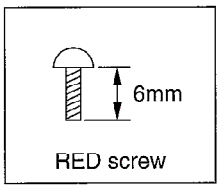
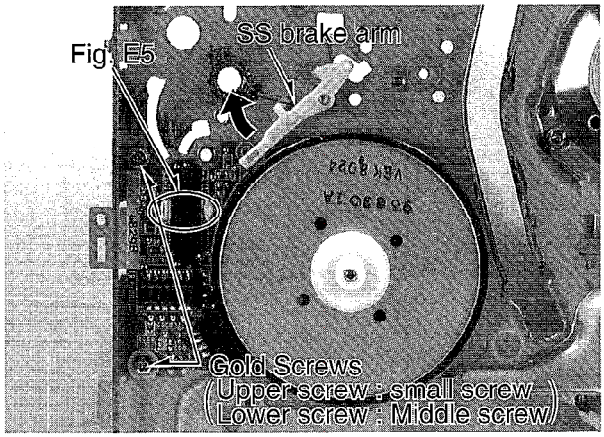


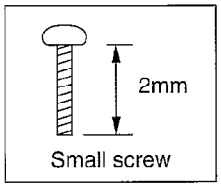
Fig. E2

(2) Assembly of Capstan unit

Move SS brake arm in the direction of arrow (see Fig. E3) and capstan unit should be fixed by 2 screws (GOLD) on the bottom side of Mechanism chassis and 3 screws (GOLD) on the top of Mechanism chassis (Fig. E3 E4)

BOTTOM VIEW





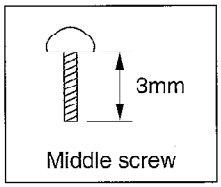
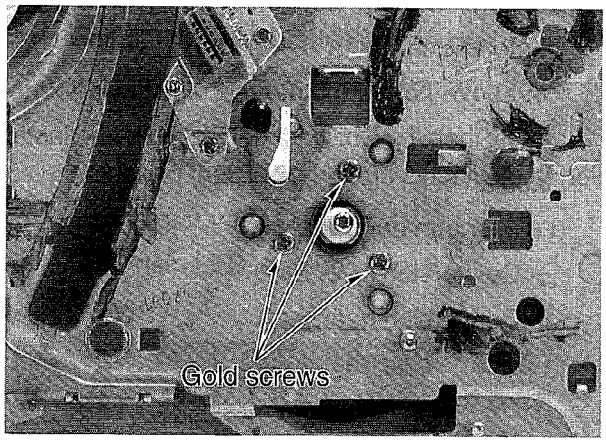


Fig. E3

TOP VIEW



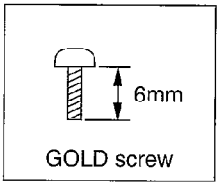


Fig. E4

NOTE: Replacement of Capstan unit and Procedure of applying the silicone grease.

REPLACEMENT OF CAPSTAN UNIT

In case of replacement of the Capstan Unit the Silicone grease have to be applied between the Mechanism chassis and the Drive IC by the following procedure.

Silicone grease No. VFK1301 for radiation of the Drive IC

Silicone grease is used for the radiation of the Drive IC. The heat occurred on the IC is radiated to the Mechanism chassis through the grease. In case of the incomplete radiation, the safety circuit operates depending on the rise of the temperature and it possibility stop the operation of the Drive IC

PROCEDURE OF APPLYING THE SILICONE GREASE

① There is a cut-out part at the Drive IC mounting position and the bottom of the IC can be seen from the cut-out part Apply the Silicon grease to whole the cut-out part of IC as shown in Fig. E5-1 so that the grease is piled 0 3–0 5 mm from the surface of the C B A

② Next, from the component side of the C.B A., apply the Silicon grease so that the grease is piled at the metal of the center of the IC as shown in Fig. E5-2.

Fig. E5-1. Apply the Silicon grease so that the grease is piled 0.3 0.5 mm from the surface of the C.B.A.

Fig. E5-2. Apply the Silicon grease at the metal of the center of the IC.

SIDE VIEW

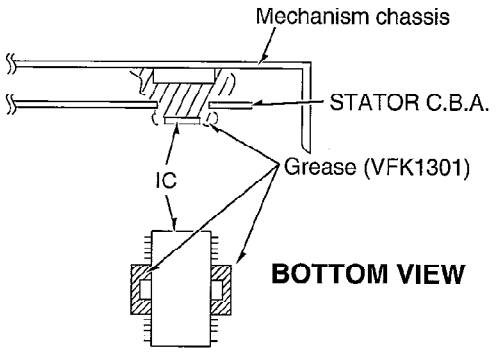


Fig. E5

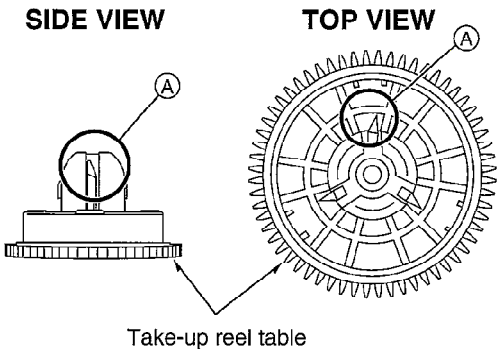


Fig. E11

(7) Assembly of Supply reel table and Tension arm unit

Install washer (Fig. E13) and Supply reel table. Insert Tension arm unit to Tension arm projection and hang Tension spring with Supply spring arm projection (Fig. E12).

※1 Pay an attention of Position of the Supply spring arm.

NOTE: The shape between portion A for Take-up reel table and portion B for Supply reel table is different.

Therefore, confirm the shape of portion A and B before mounting reel tables. If Take-up reel table has been confused with Supply reel table and they have been installed, the trouble of reel table rotation slip happens (Fig. E14).

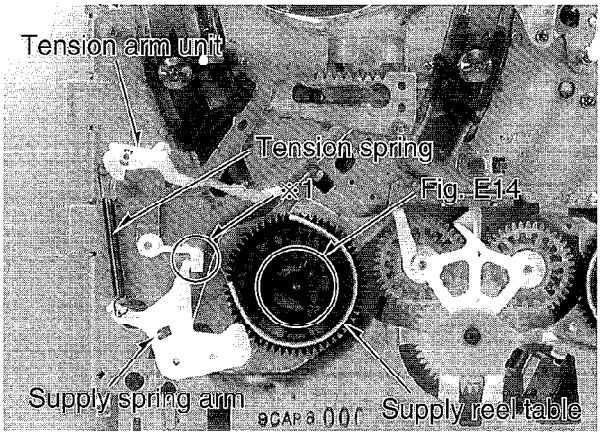


Fig. E12

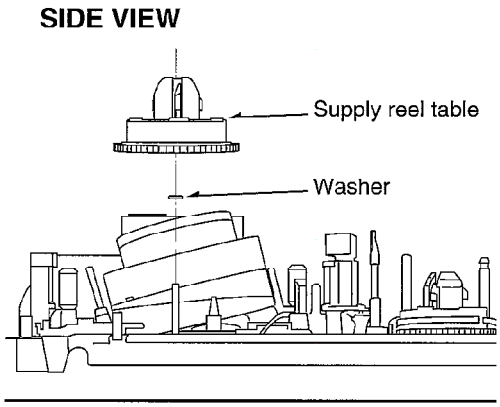


Fig. E13

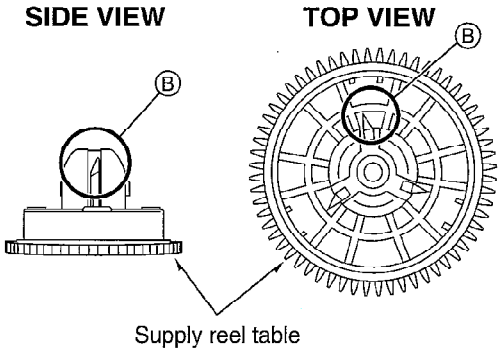


Fig. E14

(8) Assembly of Drive main lever arm

Install Drive main lever arm so that Drive main lever arm fits to the groove of Chassis.

And rotate Drive main lever arm to the clockwise in order to adjust the phase between the hole of the position fixture and the penetration hole of Chassis (Fig. E15).

TOP VIEW

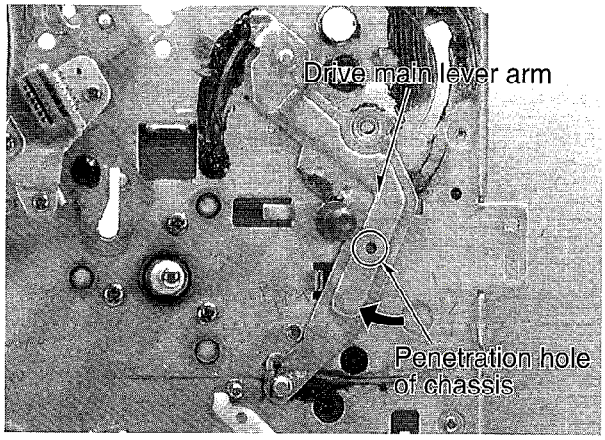


Fig. E15

(9) Assembly of Conversion lever A, P5 arm and Main lever

Install Conversion lever A and P5 arm (Fig. E16, E17).

Adjust the phase of Main lever so that Main lever fits the projection of Loading rack.

Main lever has to be locked at the projection of Chassis by 2 tabs of Prism LED (Fig. E16).

※ Conversion lever A, P5 arm, Supply brake arm unit and the projection of Take-up brake arm have to be installed to the groove under the Main lever (Fig. E18).

TOP VIEW

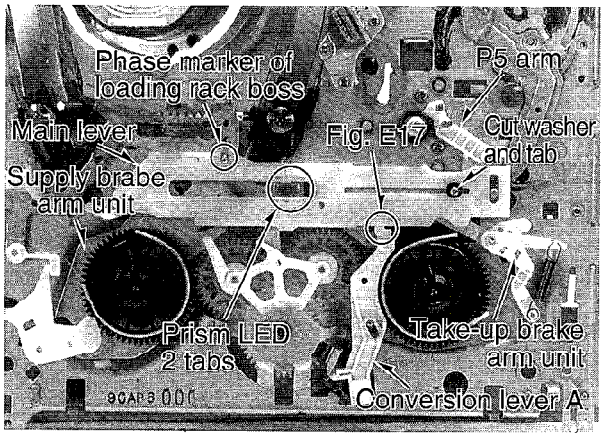


Fig. E16

TOP VIEW

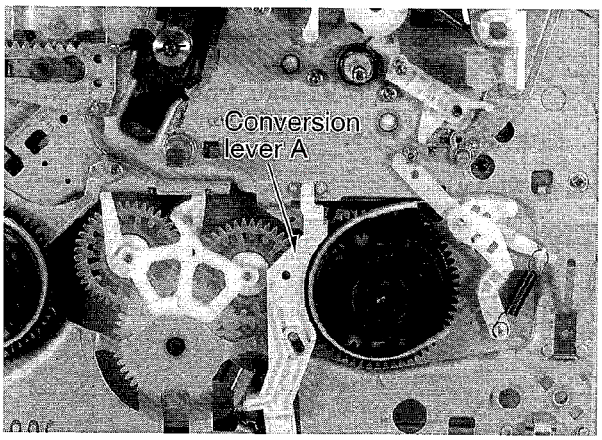


Fig. E17

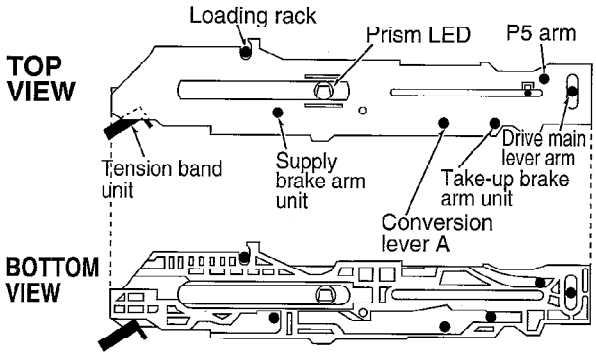


Fig. E18

(10) Assembly of Drive rack arm

Install Drive rack arm so that Drive rack arm fits the groove of Chassis and rotate it to the clockwise in order to fit the penetration hole of Chassis (Fig. E19)

TOP VIEW

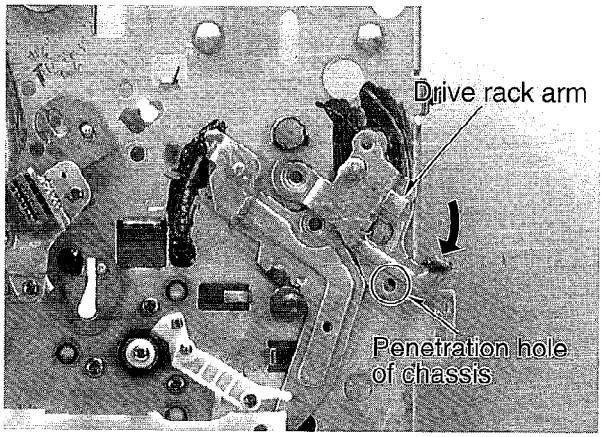


Fig. E19

(11) Assembly of Main cam gear

Install Main cam gear so that Main cam gear fits the penetration hole of Chassis (Fig. E20) and fix it by the snap washer from the bottom of Chassis (Fig. E21).

TOP VIEW

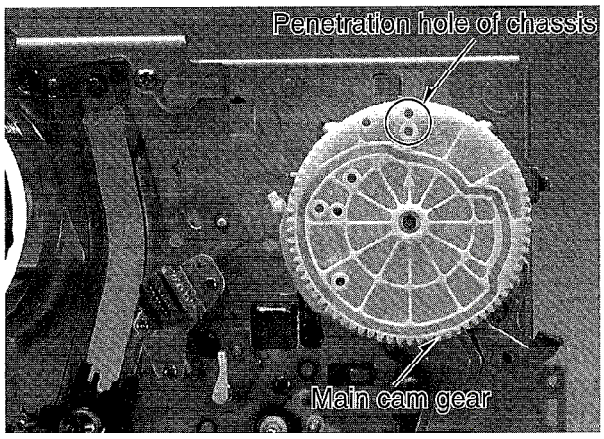
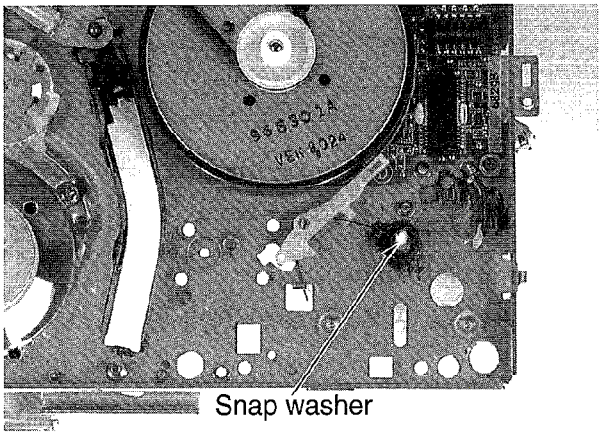


Fig. E20

BOTTOM VIEW



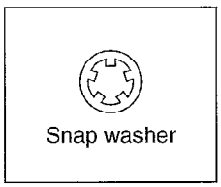


Fig. E21

(12) Assembly of Loading motor unit

Install Loading motor unit so that Loading motor unit fits the groove of Chassis (Fig. E22).

(13) Assembly of Pinch arm

Put Pinch arm together and install Opener space to fix Pinch arm (Fig. E22).

TOP VIEW

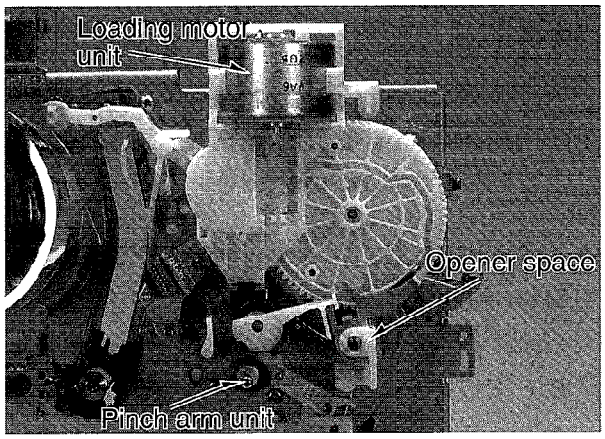


Fig. E22

4-3 Assembly of mechanism chassis

1 Assembly of Mechanism chassis

(1) Adjust the phase of Position switch in Main C B A..

Rotate Position switch until the click point. The projection of Position switch should be set to just above (Fig. F1)

TOP VIEW

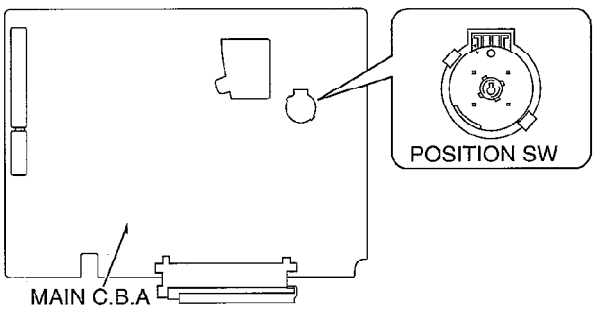


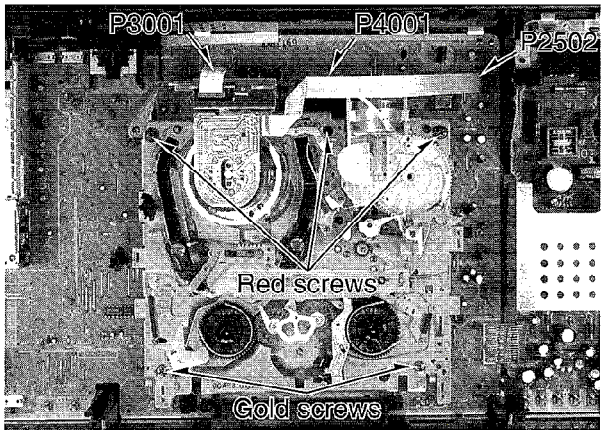
Fig. F1

(2) Assembly of Mechanism chassis

Put Mechanism chassis on Main C.B.A. and fix it by 5 screws (3 red screws and 2 gold screws).

Connect P3001, P2502 and P4001 (Fig. F2)

TOP VIEW



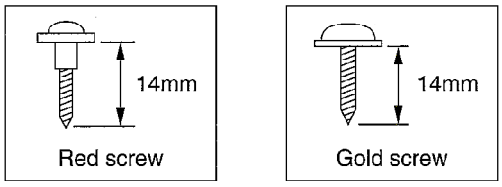


Fig. F2

※ The red screws has a gap among the chassis. Therefore be careful not to tighten too much.

2. Assembly of Cassette holder unit

(1) Assembly of Main shaft

Install Main shaft so that Main shaft fits the groove of Chassis (Fig. F3)

TOP VIEW

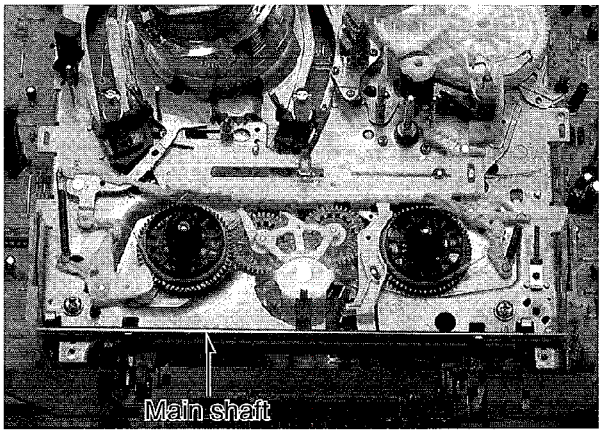


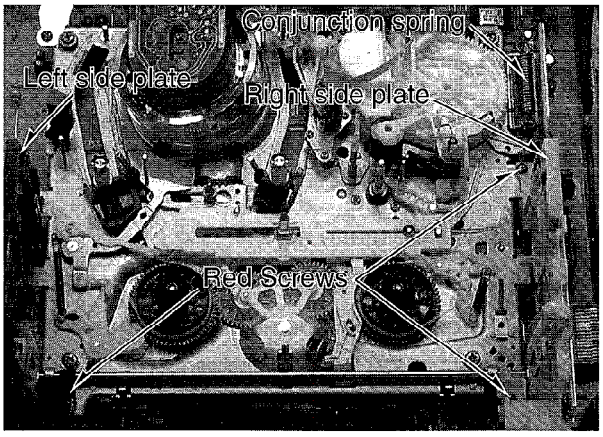
Fig. F3

(2) Assembly of Left & Right side plate

Install Left side plate so that Left side plate fits the groove of Chassis and fix it by the red screws.

After adjustment the phase of waper arm and Drive rack (Fig. F5), install Right side plate so that Right side plate fits the groove of Chassis and fix it by 2 red screws. Hang Conjunction spring on the projection of Drive rack arm (Fig. F4, F5).

TOP VIEW



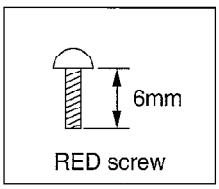


Fig. F4

SIDE VIEW

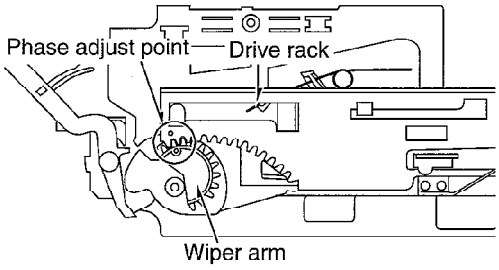


Fig. F5

TOP VIEW

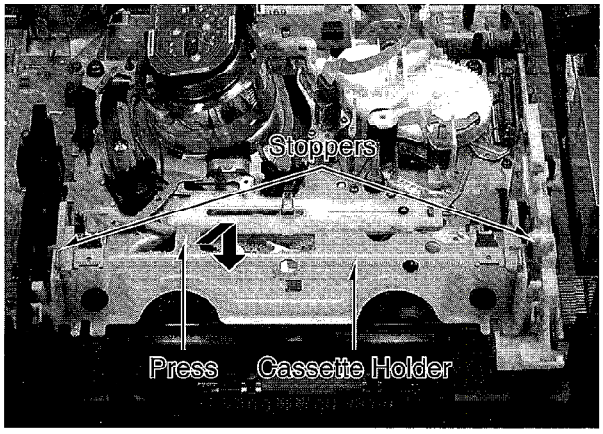


Fig. F6

(3) Assembly of Cassette holder

Install Cassette holder so that Cassette holder fits the groove of Waper arm installed in Main shaft (Fig. F6, F7).

TOP VIEW

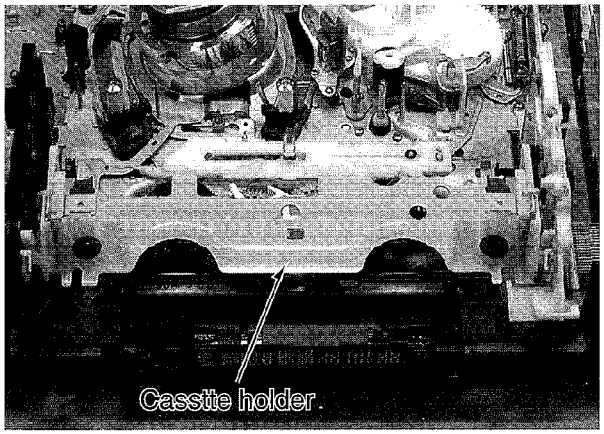


Fig. F7

(4) Assembly of Top plate

Install Top plate so that Top plate fits the groove of Left and Right side plate.

※ Fix Top plate by tightening screw when the tabs of Left and Right side plate broke (Fig. F8)

TOP VIEW

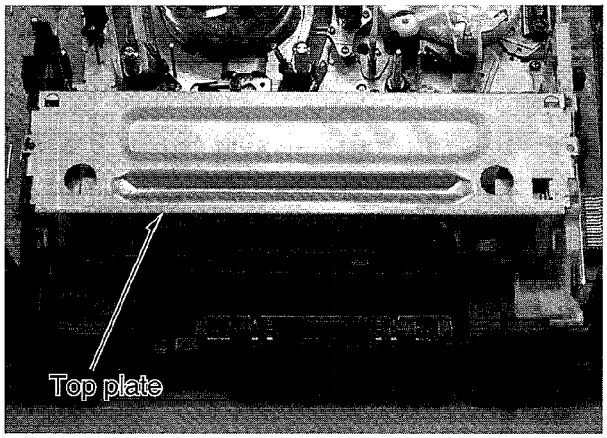
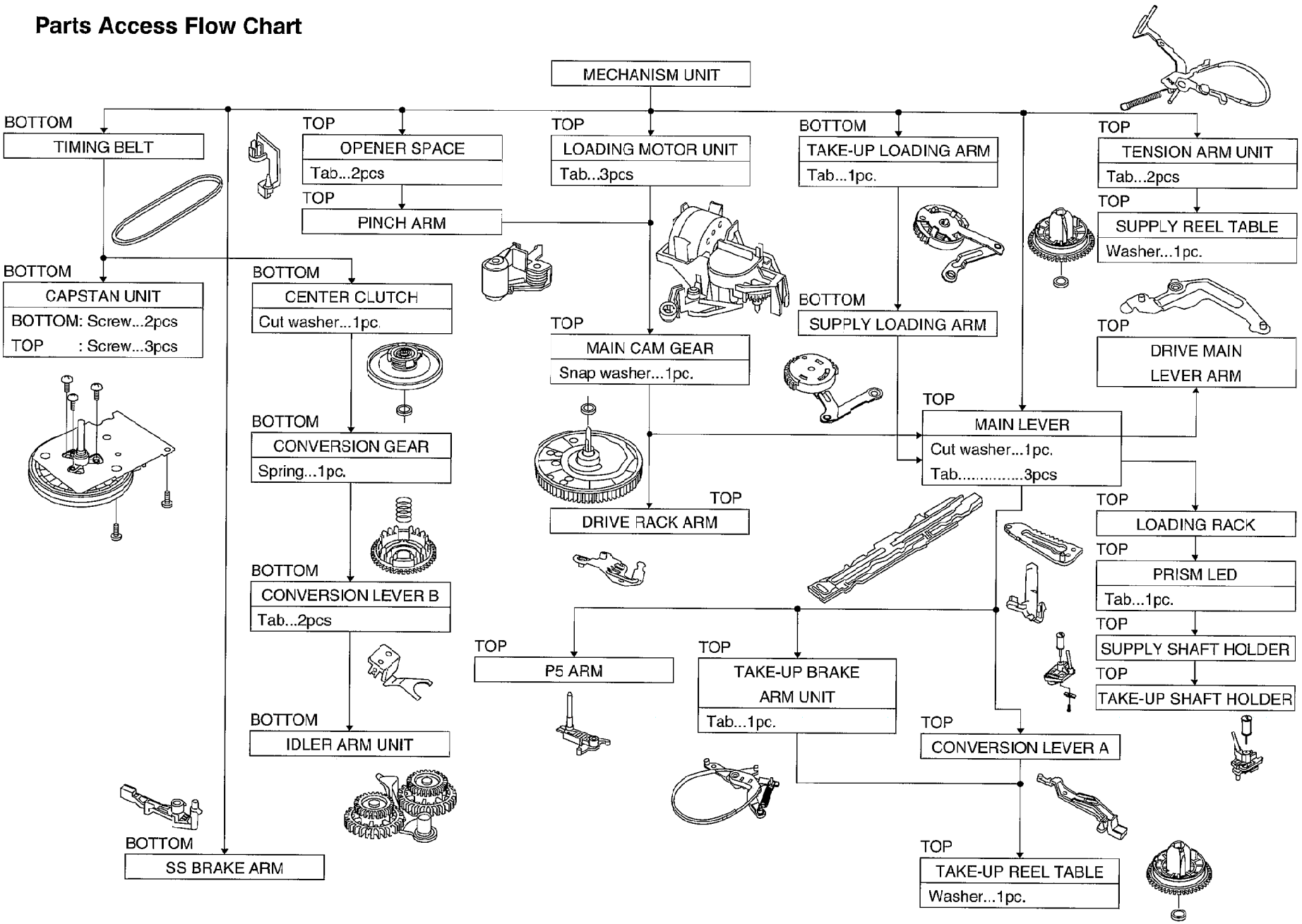


Fig. F8

(5) Install Front panel unit and Top panel

Parts Access Flow Chart



5. MECHANICAL ADJUSTMENT PROCEDURE

5-1. Tension post position adjustment

Equipment required: Hex. Wrench (VFK0326)
Specification: 50.5±1.5 mm

(1) Disconnect the AC plug.

(2) Remove the TOP PLATE.

(3) Turn the LOADING MOTOR until the loading completes.

(4) Adjust the hole of Tension Band Fastener by Hex Wrench until the distance between the Tension Post and the center of Supply reel table is 50.5±1.5 mm as shown in Fig. M1.

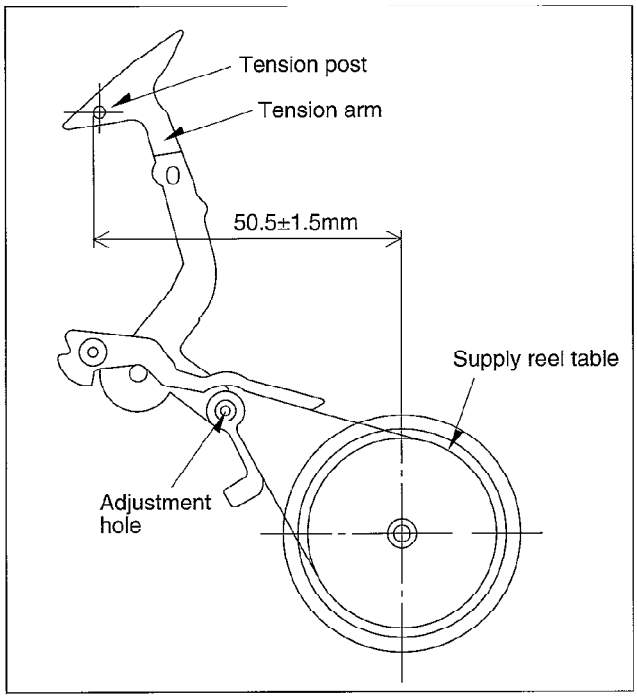


Fig. M1

5-2. Back tension adjustment

Equipment required:
Back Tension Meter (VFK0132)
VHS Cassette tape (180 minutes tape: PAL)
VHS Cassette tape (120 minutes tape: NTSC)
Specification: 22.5–27.5g

(1) Playback the cassette tape from the beginning and wait until the tape movement get the stabilization. (for approx. 10–20 seconds)

(2) Insert the Back Tension Meter into the path of a tape, and measure the back tension to be within specification as shown in Fig. M2.

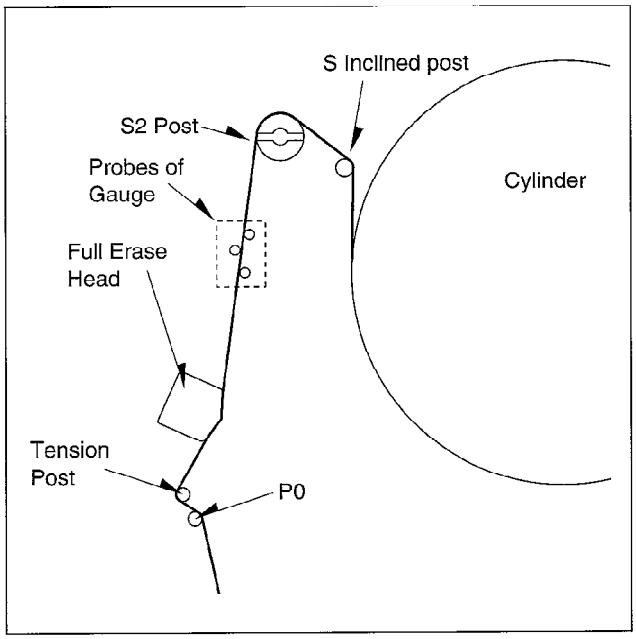


Fig. M2

(3) If it is out of specification, change the spring notch as shown in Fig. M3.

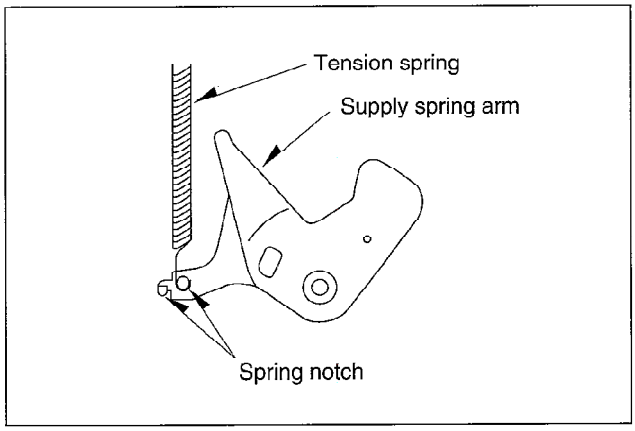


Fig. M3

5-3. P2 and P3 posts adjustment (PREADJUSTMENT)

Equipment Required:
Post Adjustment Screwdriver (VFK0329)

(1) Remove the Top Plate.

(2) Turn the Loading Motor until the unloading completes.

(3) Rotate the P2 and P3 Posts clockwise to the end. (Fig. M4)

(4) Rotate the P2 and P3 Posts twice counterclockwise. (Fig. M4)

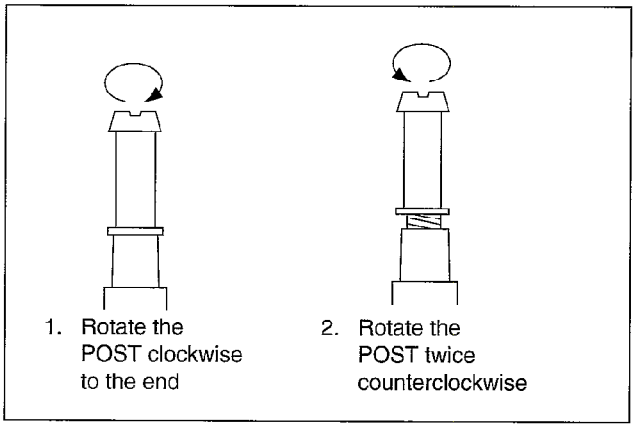


Fig. M4

(5) Playback the cassette tape and make sure that the edges of the tape are not curling at the bottom or top end of the P2, P3, and P4 Posts as shown in Fig. M5.

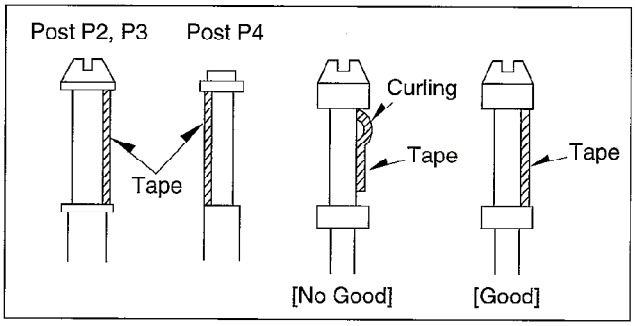


Fig. M5

(6) If the curling appears, readjusts the P2 and P3 Posts.

5-4. Tape interchangeability adjustment

Carry out the following procedures for Tape Interchangeability Adjustment to do it correctly and smoothly.

(1) P2 AND P3 POSTS ADJUSTMENT
(2) ADJUSTMENT OF P4 POST
(3) HEIGHT ADJUSTMENT OF A/C HEAD
(4) FINE-ADJUSTMENT OF A/C HEAD
(5) ADJUSTMENT OF X-VALUE (PREADJUSTMENT)
(6) FINE-ADJUSTMENT OF X-VALUE

If the Tape Interchangeability Adjustment is not perfect, repeat the above procedures from (1) to (6).

CAUTIONS: To make an Adjustment Mode for Tape Interchangeability, press the FF, REW and EJECT buttons simultaneously 3 times to set the Service Mode 2.

NOTE: Cleaning the Tape Transport path before adjusting of Tape Interchangeability. The detail portion is shown below.

P0 Post, Tension Posts, FE Head, P2 Post, Supply Inclined Post, Cylinder Unit, Take-up Inclined Post, P3 Post, A/C Head, P4 Post, Pinch Roller, Capstan Shaft, P5 Post. FE Head, Cylinder Unit, A/C Head and Capstan Shaft are more important parts and pay an attention to clean them.

5-4-(1). P2 AND P3 POSTS ADJUSTMENT

Equipment required:
Alignment Tape (PAL/SECAM: VFJ8125H3F)
(NTSC: VFM8080HQFP)
Post Adjustment Screwdriver (VFK0329)

(1) Connect the oscilloscope to the output of the Head Amp as shown in Fig. M6.

NOTE: To get a stable waveform of the Head Amp output (observation point TW3001 and TW2001 located on Main C.B.A.) on the oscilloscope, use the head switching pulse as a triggering signal as shown in Fig. M6.

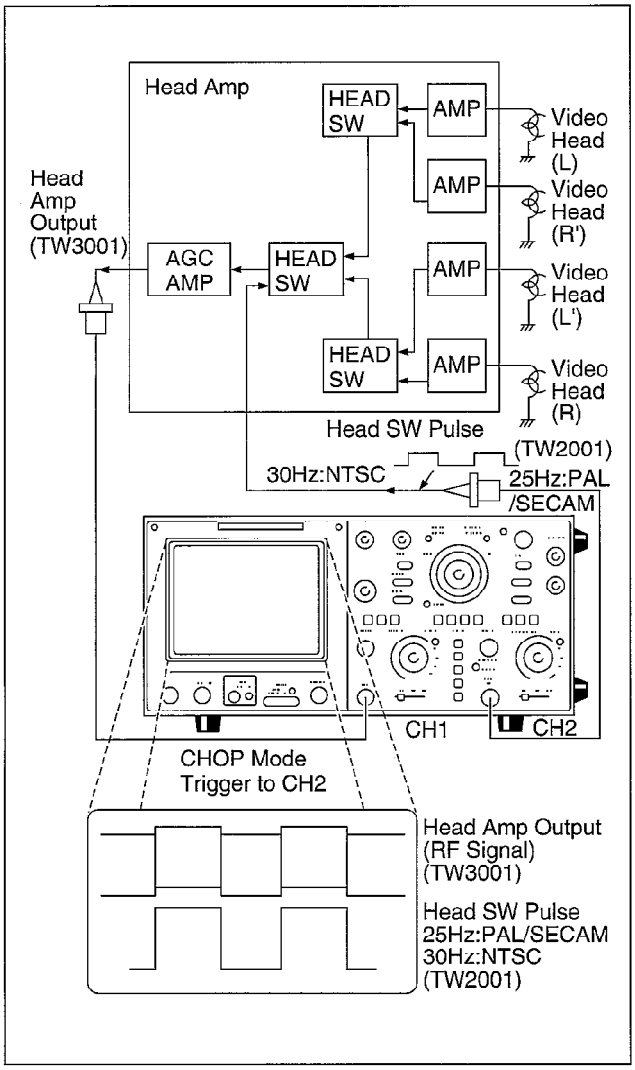


Fig. M6 Connect of Oscilloscope

(2) Playback the Alignment Tape.

(3) If the RF envelope appears like example "A" or "B" in Fig. M7, then adjustment of the tape guide post (P2: Entrance) is necessary.

(4) Adjust the tape guide post (P2) with the post adjustment screwdriver so that the RF envelope waveform at the entrance portion becomes flat as shown in Fig. M7 "C".

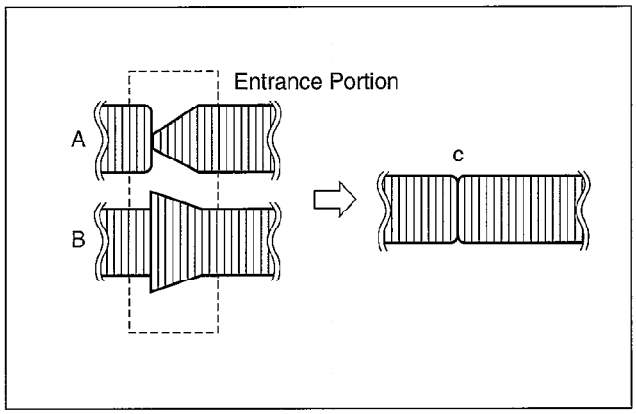


Fig. M7

(5) If the RF envelope appears like "D" or "E" in Fig. M8, then adjustment of the tape guide post (P3: Exit) is necessary.

(6) Adjust the tape guide post (P3) in the same manner as the P2 post so that the exit portion becomes flat as shown in Fig. M8 "F".

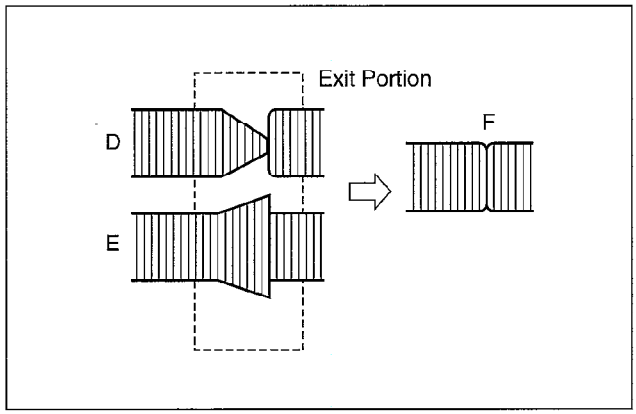


Fig. M8

(7) Keep pressing the tracking up/down (∧ or ∨) buttons on the remote controller unit. The output envelope should vary nearly parallel with other condition as shown in Fig. M9.

(8) Set the tracking control into center fix position by pressing the tracking up/down (∧ and ∨) simultaneously and adjust for maximum RF envelope, whilst being as flat as possible.

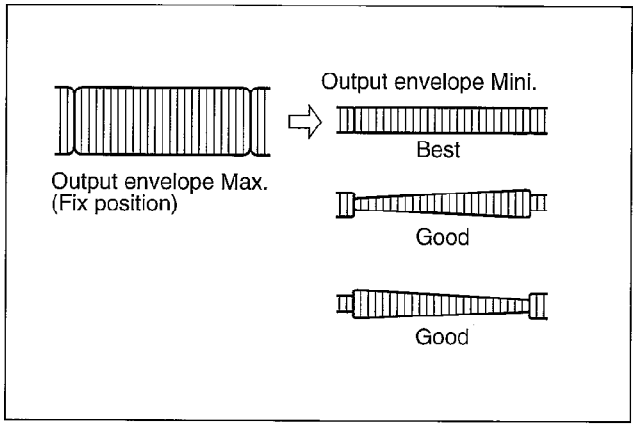


Fig. M9

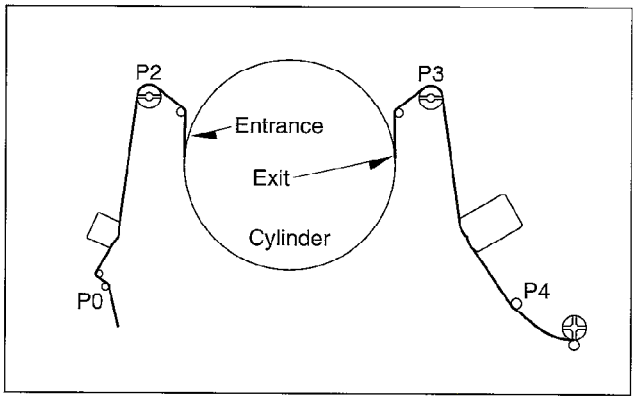


Fig. M10 Loading of Posts

5-4-(2). ADJUSTMENT OF P4 POST

(1) Install A/C Head on the Mechanism Chassis by one screw.

(2) Playback the Alignment Tape.

(3) Rotate the screw (A) or (B) until the wrinkle appears on the lower edge of tape at P4 Post.

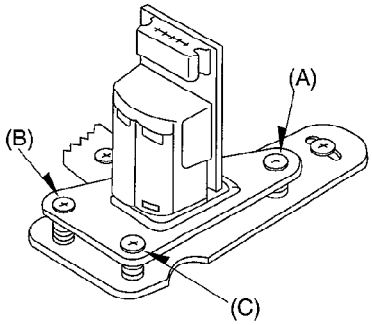
(4) Rotate the screw (A) or (B) until the wrinkle just disappears on the lower edge of tape at P4 Post.

(5) Connect the oscilloscope to audio output terminal.

(6) Rotate the screw (C) until audio signal is maximized.

NOTE: 1. The relation between the rotation direction of screws (A) and (B) and the condition of wrinkle on the lower edge at P4 Post as shown in Fig. M11.

2. Make sure that there is not the inclined wrinkle between P4 Post and Pinch Roller.



	SCREW (A)	SCREW (B)
So wrinkle appears on the lower edge of tape	COUNTER CLOCKWISE	CLOCKWISE
So wrinkle disappears on the lower edge of tape	CLOCKWISE	COUNTER CLOCKWISE

Fig. M11

5-4-(3). HEIGHT ADJUSTMENT OF A/C HEAD

<When moving the A/C Head up>

(1) Rotate the screw (A) counterclockwise until the wrinkle appears on the lower edge of tape at P4 Post.

(2) Rotate the screw (B) counterclockwise until the wrinkle just disappears on the lower edge of tape at P4 post.

(3) Rotate the screw (C) counterclockwise until the audio signal is maximized.

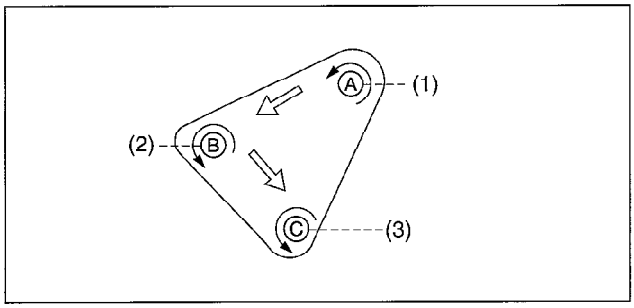


Fig. M12

<When moving the A/C Head down>

(1) Rotate the screw (B) clockwise until the wrinkle appears on the lower edge of tape at P4 Post.

(2) Rotate the screw (A) clockwise until the wrinkle just disappears on the lower edge of tape at P4 post.

(3) Rotate the screw (C) clockwise until the audio signal is maximized.

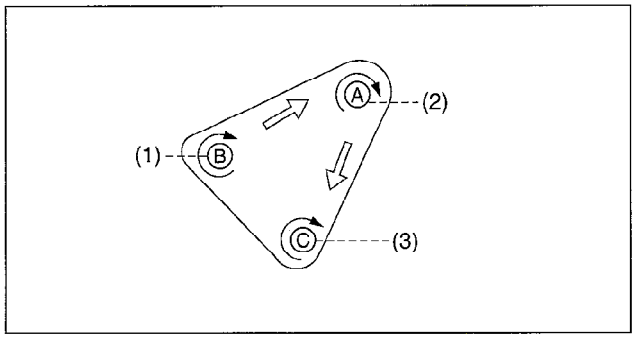


Fig. M13

5-4-(4). FINE-ADJUSTMENT OF A/C HEAD

(1) Connect the oscilloscope to the output of the Head Amp as shown in Fig. M6.

(2) Playback the Alignment Tape.

(3) Make sure that the condition of the wrinkle at P4 Post. If the condition of the wrinkle is out of specification, P4 Post adjustment has to be performed as follows.

Turn the screw (A) counterclockwise until the wrinkle appears on the lower edge of tape at P4 Post.

Turn the screw (A) clockwise until the wrinkle disappears on the lower edge of tape at P4 Post.

(4) Turn the screw (C) until the audio signal is maximized.

NOTE: Make sure that the audio output does not increase when push the upper and lower edges of tape around A/C Head.

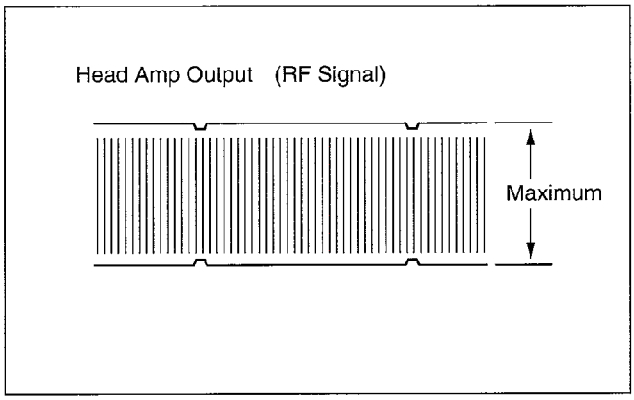


Fig. M14

5-4-(5). ADJUSTMENT OF X-VALUE (PREADJUSTMENT)

Equipment required:
Fine Adjustment Gear Drive (VFK0330)
Specification: Less than 15 msec.

(1) Connect the oscilloscope to the audio output and the video output. Both output signals should be fixed by the external trigger.

(2) Playback the Alignment Tape and set the tracking control into center fix position.

(3) Adjust A/C Head position by the Fine Adjustment Gear Driver (VFK0330) to meet the signal fault portion of the audio output and the video output signals (Less than 15 msec.).

(4) After meeting the signal fault portion, adjust A/C Head position by the Finc Adjustment Gear Driver (VFK0330) until the video envelope is maximized.

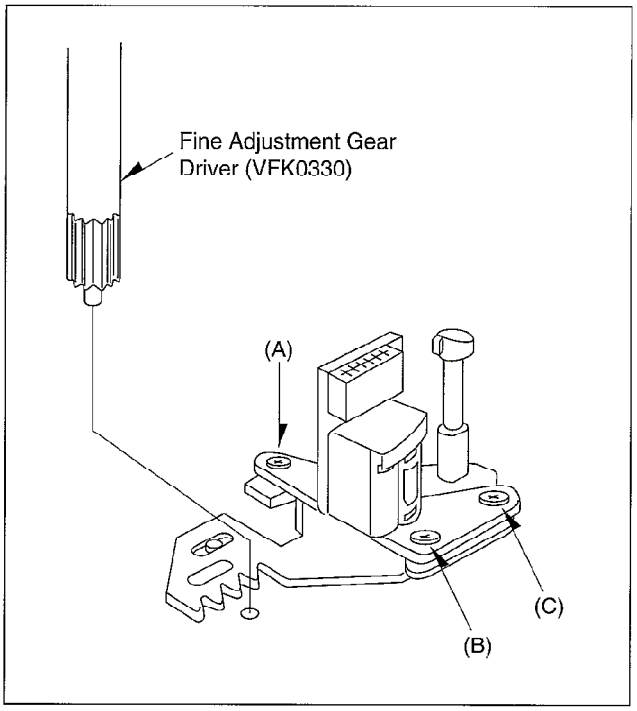


Fig. M15

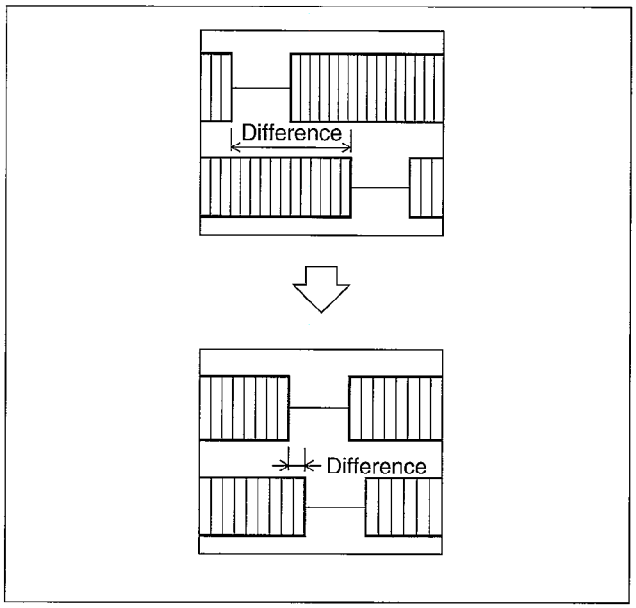


Fig. M16

5-4-(6). FINE-ADJUSTMENT OF X-VALUE

Equipment required:
Fine Adjustment Gear Drive (VFK0330)

(1) Connect the oscilloscope to the audio output and the video output. Both output signals should be fixed by the external trigger.

(2) Playback the alignment tape and set the tracking control into center fix position.

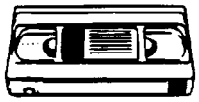
(3) Adjust A/C Head position by the Fine adjustment Gear Driver (VFK0330) until the video envelope level is maximized at the tracking center fix position.

NOTE: During X-Value Fine Adjustment, in case the video envelope level became 0, Preadjustment of X-value should be adjusted again due to it is possibility to vary the X-value adjustment.

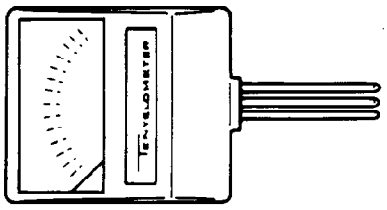
Servicing Fixtures & Tools

VFJ8125H3F
PAL VHS Alignment Tape

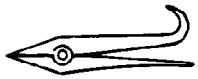
VFM8080HQFP
NTSC VHS Alignment Tape



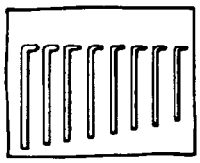
VFK0132
Back Tension Meter
(Tentelometer, Made in U.S.A.)



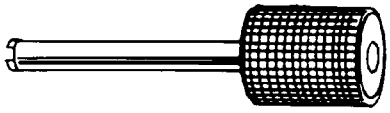
VFK0335
Retaining Ring Remover
(3mm/4mm)



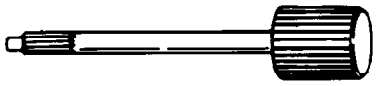
VFK0326
Hex. Wrench Set
(0.7, 0.9, 1.2, 1.5, 1.6, 2.0, 2.4, 3.0mm)



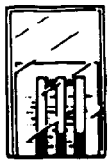
VFK0329
Post Adjustment Screwdriver



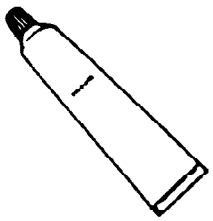
VFK0330
Fine Adjustment Gear Driver



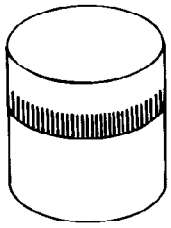
VFK27
Hand Cleaning Stick



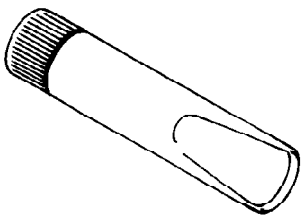
VFK1024
Morlytone Grease



VFK1298
Floil Grease



VFK1301
Silicone Grease



6. SELF-TEST INDICATION DISPLAY

This VTR has a self-diagnosis and display function. If the VTR detects trouble during installation or during use, one of the following fault indication codes will automatically appear in the VTR display. Fault indication codes are displayed in the form of a single English letter followed by two numbrs, as for example "H01".

Note: 1. The indication "U" is displayed on the FIP while power remains on.

2. Otherwise, the indication "H" or "F" is displayed on the FIP, and the power is automatically turned off

   When the power is turned on again, the fault indication code will disappear and the unit will retrun to normal display mode (either clock or counter is displayed).

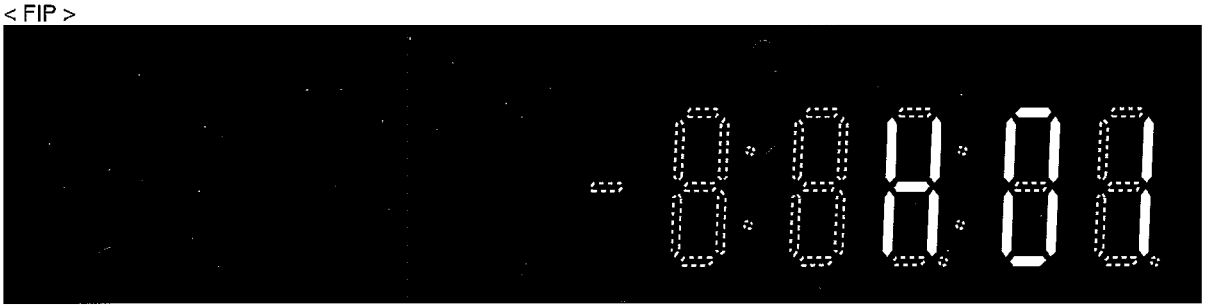
3. This fault indication code will be stored in the Timer microprocessor even with the AC plug disconnected.

   The two-digit number portion of the stored fault indication code can be redisplayed in the FIP's "second" display portion (the last 2 digits on the light) by placing the unit is Service Mode Number 2 when turning on Service Information Display as for example "01" or "02" etc.

   If a second error occurs, only the most recent error will be displayed and stored.

4. To erase the stored fault indication code data, Press FF, REW and EJECT buttons for 5 seconds.

< FIP >



INDICATION	CAUSE	REMEDY/CHECK
U 10	Dew formation.	Wait until the indication disappears.
U 11	Cylinder clogs during the play mode.	Cleaning the cylinder.
H 01	After cylinder lock is detected, the cylinder does not start rotating again even after tape unloading.	Check the cylinder motor drive circuit.
H 02	Cassette tape is not wound up during tape unloading except Eject mode.	Check the capstan motor drive circuit.
F 03	Mechanism locks during mode transition except Eject mode.	1. Check the loading motor drive circuit. 2. Check the mechanism phase alignment. 3. Check the mode switch.
F 04	Mechanism locks during tape unloading.	1. Check the loading motor drive circuit. 2. Check the mechanism phase alignment.
F 05	Cassette tape is not wound up during tape unloading in Eject mode.	1. Check the capstan motor drive circuit. 2. Check the Supply/Take-up reel pulse.
F 06	Mechanism locks after tape unloading in Eject mode.	1. Check the loading motor drive circuit. 2. Check the mechanism phase alignment for cassette holder unit.
F 07	During recording mode recording signal is less than the normal condition.	Protection of the overcurrent flowing in transistor which produce the power supply for recording mode.
F 09	No communication of the main serial (between the system control and FIP driver control).	Check the system control microprocessor.

Fig. T1 Self-Test indication Display

7. SERVICE INFORMATION DISPLAY

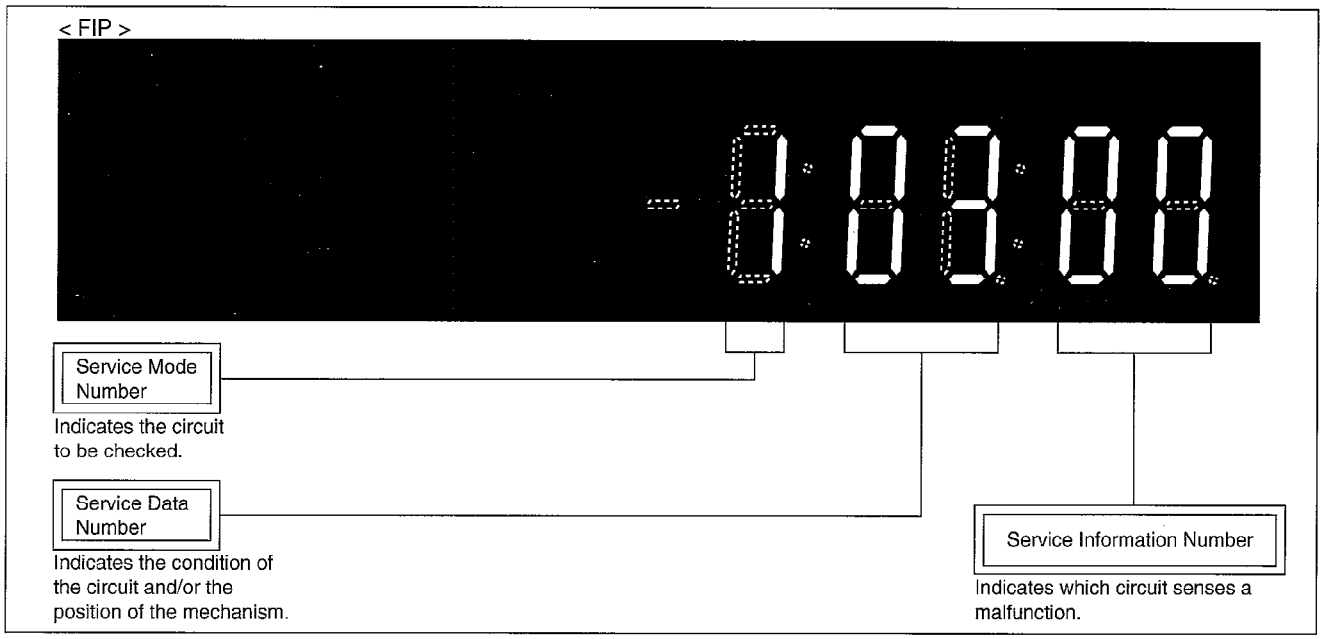

< FIP >
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicates the condition of the circuit and/or the position of the mechanism.
Service Information Number
Indicates which circuit senses a malfunction.

Fig. D1 Service Information Display

7-1 Purpose of Service Information Display

This information aids trouble shooting by indicating the source of the malfunction. The service mode number & service data number are used by the technician during repair while the service information can be used by consumer to diagnose malfunctions allowing the technician to provide a more accurate repair cost estimate and reduce repair time.

7-2. Turning on Service Information Display

Press FF, REW and EJECT buttons simultaneously.

In the Service Information Display, there are four digits divided into 3 functions.

The first digit indicates which of the 7 service modes that the unit is currently in.

MODE 1: Checks tape protection circuit.

MODE 2: Checks tape transport mechanism.

MODE 3: Checks mode switching operation.

MODE 4: Checks control buttons.

MODE 5: Checks capstan motor.

MODE 6: Checks cylinder motor.

MODE 7: Checks loading/unloading operation.

The second and third digits are service data which indicate the condition of the circuit or mechanism being checked.

The forth digit is the service infromation display. it is to be used by the consumer to help determine the source of a malfunction. The service information display operates independently of the service modes and stores the fault indication in memory for as long as AC power is not supplied.

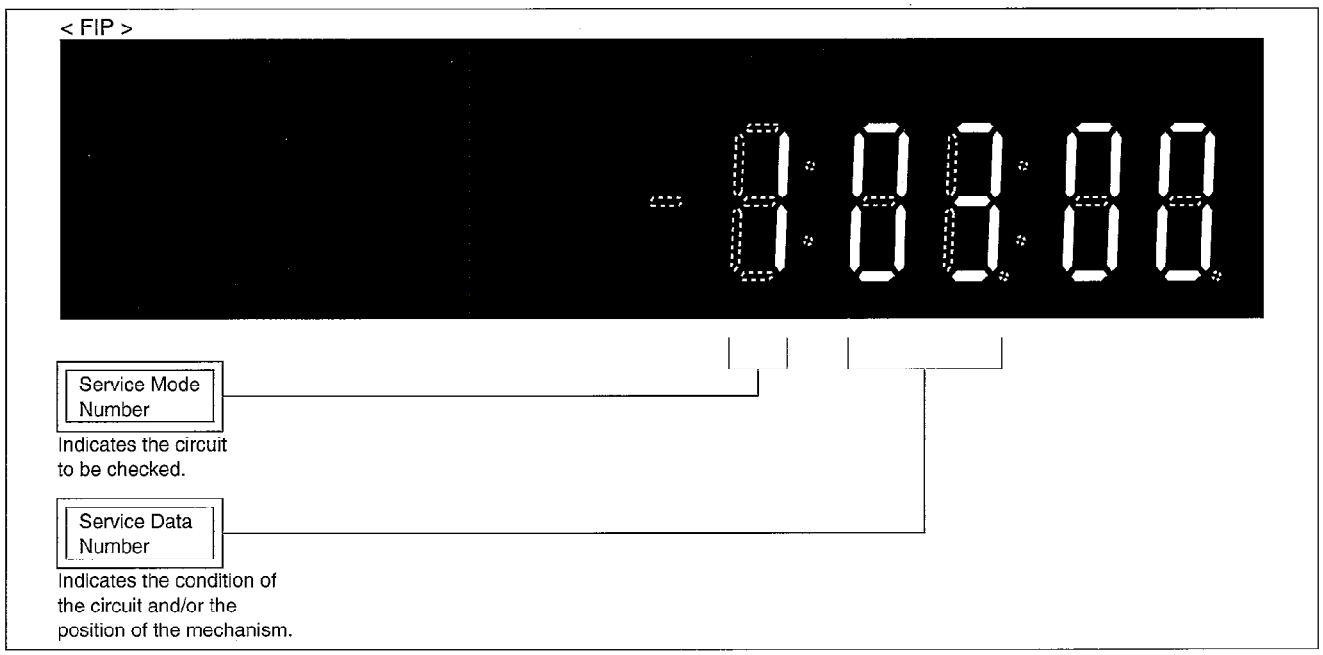

< FIP >
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicates the condition of the circuit and/or the position of the mechanism.

Fig. D2 Service Mode Number and Service Data Number on F.I.P.

7-3. Use of Service Modes

(1) Turn on Service information Display.

(2) To change Service Modes Press FF, REW and EJECT buttons simultaneously.

(3) Mode 0: Not used.

(4) Mode 1: Checks that the sensor LED, Supply & Take-up sensor circuits checks the circuits by blocking the light from the sensor LED to either or both Supply & Take-up Sensors. When the light is blocked to both sensors, "00" should be indicated on the service data number.
When the light is blocked to the supply sensor, "01" should be indicated.

(5) Mode 2: Checks the mode switch circuit while indicating mechanism position.
Service Data Numbers indicate the position of the mode switch and there by the mechanism position.

(6) Mode 3: Checks that mode switch circuit operations have been completed.
Service Data Number should indicate "00" after each mechanism operation is completed.

(7) Mode 4: Checks the operation circuit.
Indicates if SYSTEM CONTROL IC receives the operating commands from the mode buttons and/or remote controller.

(8) Mode 5: Checks the capstan motor circuit.
Indicates if the SYSTEM CONTROL IC has received the command to rotate the capstan motor.

(9) Mode 6: Checks the cylinder motor circuit.
SYSTEM CONTROL IC has received the command to rotate the cylinder motor.

(10) Mode 7: Checks the loading/unloading operation.
The loading motor rotates for loading operation when the "PLAY" button is pressed.
The loading motor rotates for unloading operation when the "STOP" button is pressed.
This mode can be displayed indefinitely until the OPERATE button is pressed.

<NOTE> Refer to Fig. D5 for details of Service Data Numbers.

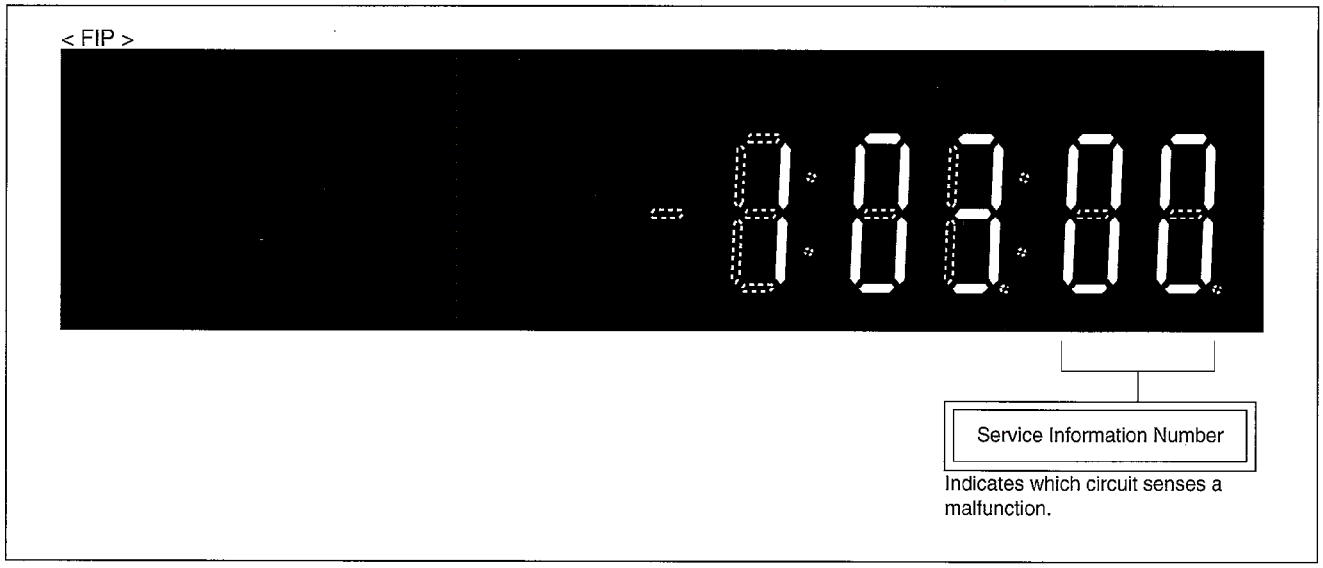


Fig. D3 Service Information Number on F.I.P.

7-4. Service Information Number

Refer to Fig. D4 for details of Service Infromation Number.

NOTE: The Service Information Number display is independent of the service mode display. The Service Information Number will be stored as long as AC power is not supplied (If can be displayed in the Service Mode 2.)

If a second error occurs, only the most recent error will be displayed.

Service Information Number	Malfunction
00	Normal condition (No problem)
01	Cylinder stop
02	Tape reel stop
03	Stop at position other than 04 or 06
04	Stop during unloading
05	Fault capstan rotation
06	Stop during Cassette-in/Eject operation
09	Fault of the main serial communication (Between system control and FIP driver)

Fig. D4 Detail Service Information Number

7-5. Test Mode

When the test terminals are shorted during turning off condition, the following operation will be performed after AC power is applied. Test Mode Information will be displayed on FIP insted of lincar counter.

(1) Power will be turned on automatically when AC power is applied.

(2) The direct operation of buttons are able to be performed.

(Examle) PLAY⟷REC, REC⟷EJECT

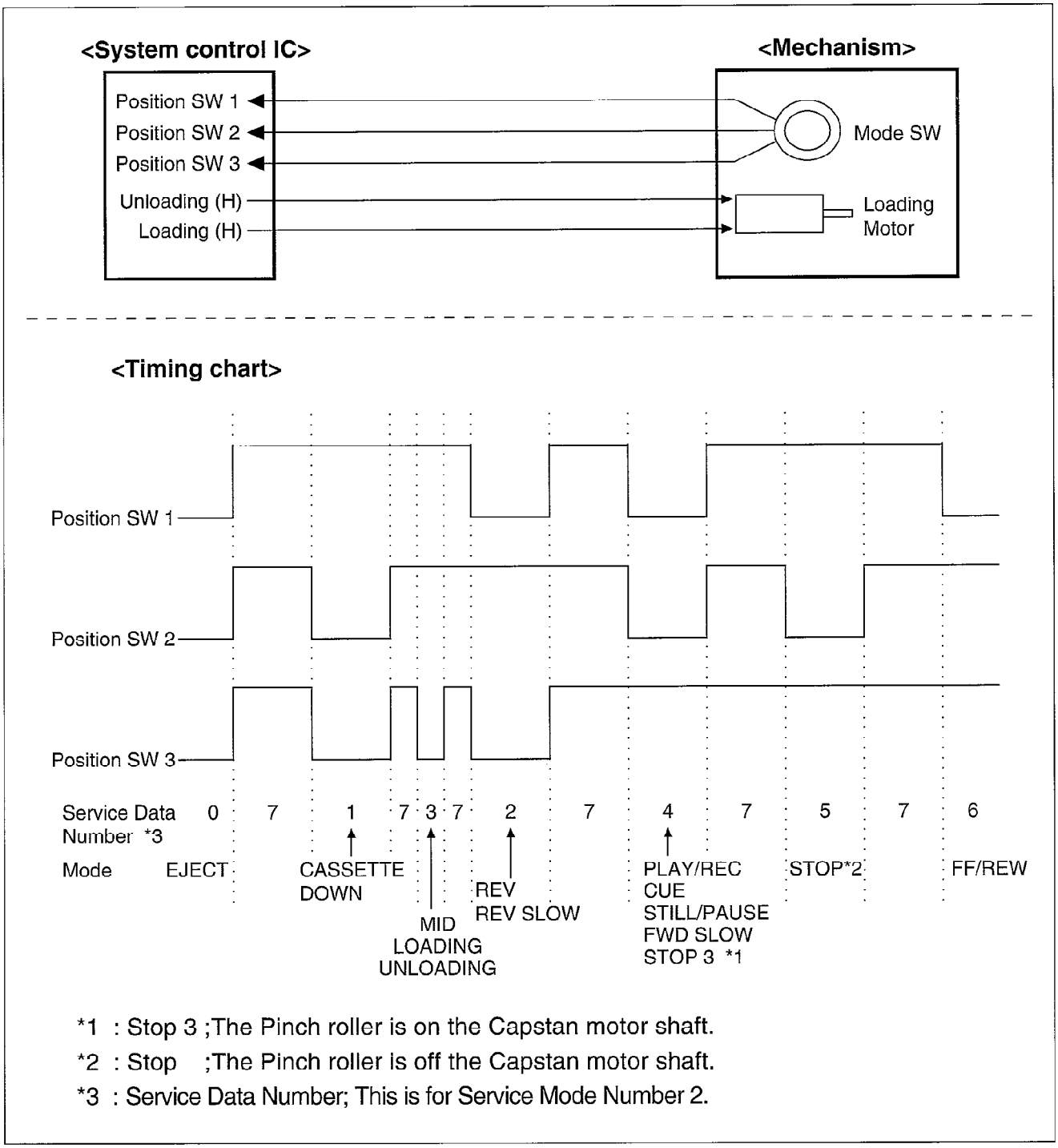
Service Mode Number	Note for checking Service Data Numbers	Service Data Numbers	Indication	Remarks
1	—	00	No light detected at either sensor	Tape not required.
		01	Tape beginning Light to Supply photo sensor is blocked.	
		02	Tape end Light to Take-up photo sensor is blocked.	
		03	Light detected at both sensors.	
2	—	00	EJECT	Tape required *1. STOP3: Pinch roller is on Capstan motor shaft. *2. STOP: Pirtch roller is off Capstan motor shaft.
		01	Cassette down	
		02	REV, REV SLOW	
		03	Loading/Unloading	
		04	PLAY, REC, STILL, PAUSE, CUE, FWD SLOW, STOP3*1	
		05	STOP*2	
		06	FF/REW	
		07	Intermediate position	
3	Disregard service data displayed until mechanism operation is completed. Then the display should indicate "00".	00	Any display other than "00" indicates a fault in the mode switch circuit or system.	Tape required.
4	Display only when the operating button is pressed.			Tape not required.
5	Left digit only, disregard Right digit display.	8 1 Left Right Digit Digit	8, 9, u, A, —, n, L and no display indicate that the Capstan motor "PLAY" command received by System control microprocessor.	Tape required. If a symbol other than those listed is displayed, a mulfunction in that circuit is indicated.
	Right digit only, disregard left digit disoaly.	8 7 Left Right Digit Digit	1, 2, 3, 4, 5, 6, 7 indicate that the Capstan motor "CUE, FF, FWD SLOW" commands received by system control microprocessor.	
	Right digit only, disregard left digit display.	8 — Left Right Digit Digit	8, 9, u, A, —, n, L and no display indicate that the Capstan motor "Reverse, REW, Reverse Slow" commands received by system control microprocessor.	
6	Left digit only, disregard Right digit display.	1 0 Left Right Digit Digit	1, 3, 5, 7, 9, A, n and no display indicate that the cylinder motor "ON" command received by system control microprocessor.	Tape required. If a symbol other than those listed is displayed, a mulfunction in that circuit is indicated.

Fig. D5 Service Data Display and Indication

7-6. Timing chart from Mode SW to System control IC

System control IC senses the mechanical position through the Mode SW.

Fig. D6 shows the timing for service mode number 2.



*1 : Stop 3 ;The Pinch roller is on the Capstan motor shaft.

*2 : Stop ;The Pinch roller is off the Capstan motor shaft.

*3 : Service Data Number; This is for Service Mode Number 2.

Fig. D6 Timing chart of Mode SW

8. SYSTEM CONTROL CIRCUIT & MECHANISM CONTROL CIRCUIT

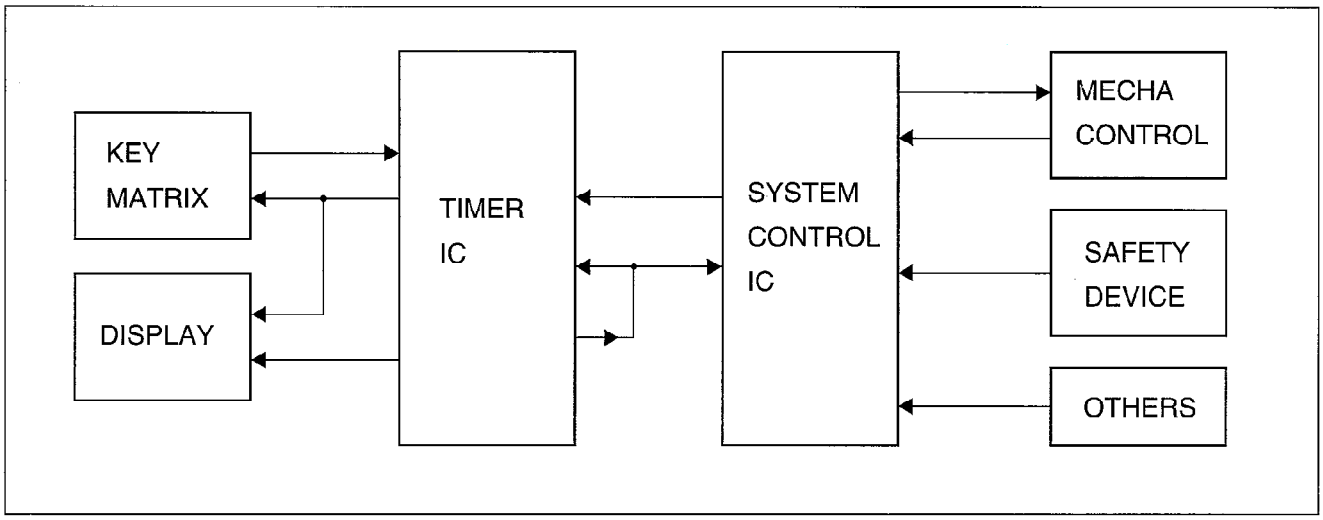


Fig. S1 Overall Block Diagram of System Control Circuit

8-1. STOP3 Specification

(1) The STOP3 is the playback stand-by mode.

(2) The unit is put into the STOP3 position after tape loading if the cassette tape does not have a clear leader tape.

(3) If the unit is in the STOP3 position when the power is switched off (included the Timer stand-by mode), the unit goes to the STOP position.

(4) If the cassette is in the unit when the power is turned on, the unit goes to the STOP3 position.

(5) When the cassette tape has clear leader tape, the unit is in loading mode after winding up the clear leader tape by Take-up reel at the cassette down position and the unit goes to STOP3 position.

8-2. Stand-by in the STOP3 position

(1) The unit goes to STOP3 position when the Stop mode is selected during the Play or Rec operations. The unit then loosens the tape tension by performing the Reverse Slow.
The Reverse Slow corresponds to the FG 40 pulses of the capstan (irrespective of SP/LP modes). The cylinder continues to rotate.

(2) After about 10 minutes in STOP3 mode, the unit shifts to the Stop position and the cylinder continues to rotate.

(3) After about 10 minutes in STOP mode, the unit stops the cylinder rotation.

8-3. Supply and Take-up Sensors

Supply and Take-up photo transistors are used to sense the beginning and end of a tape. The tape has transparent leaders at the beginning and end.

When these transparent leaders enter the tape transport path, they allow infrared light from the sensor LED to reach either one of the tape end sensors (photo-transistor).

If the Take-up end sensor detects the light, the microprocessor SYSTEM CONTROL IC places the VCR in the Stop mode and then performs a short Cue.

If the Supply end sensor is triggered, the microprocessor activates the Stop mode and the Rewind mode. The Rewind mode continues until the Take-up end sensor detects the end of the tape. The tape beginning is detects by a low signal at SYSTEM CONTROL IC Take-up photo terminal. The tape end is detected by a low signal at SYSTEM CONTROL IC Supply photo terminal.

If the light is received at both sensors at same time, the cassette is ejected.

<Operation after detecting the beginning and the end of tape>

Mode	Detection of the beginning	Detection of the end
Power on→off	Short CUE	Short REW
Cassette in	Short CUE	Short REW
Loading	Short CUE	Short REW
FF/CUE	——	Auto REW
REW/REV	Short CUE	——
PLAY, REC	——	Auto REW
SLOW	——	Auto REW
Timer REC	——	Power off

Both ends of tape detection (tape cut, no cassette),

(1) Cassette in: The cassette tape is ejected

(2) Other mode: The unit goes to Stop mode and it is impossible to operate except EJECT key.

(3) Timer REC: Power is turned off after short CUE is performed

8-4. Safety Tab Switch

A recorded video cassette can be protected against accidental erasure by breaking off the tab on the cassette. The cassette can now only be used for playback. To be able to record on the cassette, cover the hole with adhesive tape. If the safety tab on the cassette has been removed, Safety Tab Switch is off (open) and high signal is supplied to SYSTEM CONTROL IC Safety Tab terminal. The SYSTEM CONTROL IC will not go into the recording mode and automatically places the VCR in the playback mode.

8-5 Dew Sensor

If excessive moisture or condensation is present inside the machine (an internal humidity of more than 98%) the unit will stop if running. Until the moisture level decreases only the Eject mode will operate. To sense the humidity, a dew sensor is used. The sensor is a special variable resistor which change resistance with ambient humidity.

The sensor ranges in resistance from about 5K ohm at 90% humidity to about 50K omh at 98% humidity. Normally, the voltage across the sensor is low because of its low resistance.

But if moisture condenses inside the unit, the SYSTEM CONTROL IC voltage of Dew terminal increases to indicate a Dew condition.

Tape	Mode	Dew sensor ON	Dew sensor OFF
OUT	Power	Compulsory Power on	Power off
	Dew indication	Indicate "d" and "U10"	No indication
	Cylinder	Rotating *1	Stop
	Key operation	Not possible *2	Possible
	Cassette in	Immediately a cassette is ejected after it goes to cassette down position.	Possible
IN	Power	Compulsory Power on	Power off
	Dew indication	Indication "d" and "U10"	No indication
	Cylinder	Rotating *1	Stop
	Key operation	Not possible *2	Possible
	Cassette condition	A cassette goes to down position and is in stand-by mode.	Stand-by mode at STOP3 position.

*1: When the cylinder locks in dew mode, it will be released until dew sensor is truned off.

*2: The keys which do not relate to the tape running operation, are able to be used.

Dew sensor on: During Dew formation is detected and 80 minutes after completion of Dew detection.

Dew sensor off: 80 minutes later after copmletion of Dew detection.

8-6. Setting time for each mode

The time is set on each mode in order to protect tape and capstan driver. When the setting time is over, the mode is gone to the next mode.

Mode	Setting time	Switching mode
STILL, PAUSE	Approximately 5 minutes	STOP
CUE/REV lock	Approximately 10 minutes	PLAY
SLOW, F ADV	Approximately 10 minutes	STOP

8-7. Operation of short CUE

Short CUE stops when the Take-up photo sensor detects the black portion of the tape.

However its sensor does not detect the black portion within 4.0±1.0 sec., the mode except Power on/off and Eject modes will be abe to be operated after the unit stops. This is same as the timer over oeration of the reel lock.

8-8. Loading/Unloading Mechanism lock

Loading and unloading times are set, and in case the mechanism locks during loading or unloading operation within the defined time, the unit detects the mechanism lock and loading motor reverses or stops.

Loading operation lock: Cassette tape is unloaded and ejected within 5 seconds.

Unloading operation lock: Power is truned off within 5 seconds.

8-9. Cassette loading/unloading lock

(1) Mechanism locks during the cassette in operation.

① Cassette tape is ejected approximately 2 seconds later when the mechanism locks during the cassette in operation.

② In case mechanism locks during eject operation, cassette tape is inserted and power is turned off approximately 2 seconds later.

③ When Mechanism locks during cassette in operation, power is turned off approximately 2 seconds.

In case the mechanism lock is released on thc way and cassette is ejected, the unit continues the normal operation.

(2) Mechanism locks during the eject operation.

① Cassette tape goes to cassette down position approximately 2 seconds later and power is turned off when mechanism locks during eject operation.

② Mechanism locks during cassette down operation, power is turned off.

8-10. Reel lock operation

When the Suuply or Take-up reel mechanism locks during the tape running, the following operation is performed.

FF/REW : Unloading and loading. The unit goes to CUE/REV mode.

PLAY/CUE/REC : Unloading till the cassette down position and loading. The unit goes to STOP3 position.

RVS PLAY/REV : Unloading till the cassette down position and loading. The unit goes to STOP3 position.

The reel pulse cycle is started to count after the mechanism mode is fixed.

In case the counted pulse cycle exceeds the defined value, the unit goes to STOP mode due to judge that lock of reel mechanism is detected.

<The value of reel lock detection time>

NTSC/SP mode

Mode	Speed (Ratio)	Time (S)
PLAY	±1	3.5
CUE/REV	±5	1.6

PAL/SP mode

Mode	Speed (Ratio)	Time (S)
PLAY	±1	3.5
CUE/REV	±5	1.6

The reel lock time in FF/REW mode is 800msec.

When the tape speed is less than 0.23m/s, reel lock is judged.

8-11. Cylinder lock

<Start rotation>

When the cylinder neither start rotating nor go to the stability rotation within 5 seconds, it is unloading under keeping the mode. In case the cylinder starts operating and stability rotation, the mechanism goes to STOP3 position.

If it is not possible, Power is turned off and cylinder trouble "H01" is displayed.

<During rotation>

The head switching pulse is supplied to the cylinder when the cylinder starts the stable revolution. In case the head switching pulse comes to the cylinder within 0.5 seconds, the cylinder lock is judged and the following operation is activated.

Timer REC: Power off

PLAY, REC: STOP

8-12. Mode transition

The relation between the present mode and operation key is shown in the following table.

PRESET MODE	OPERATION KEY							
	P SW	EJECT	STOP	REW	FF	PLAY	PAUSE	REC
P-OFF	P-ON	EJECT	——	——	——	PLAY	——	——
EJECT	P-OFF	——	——	——	——	——	——	——
STOP	P-OFF	EJECT	——	REW	FF	PLAY	——	REC
REW	P-OFF	EJECT	STOP	REV	FF	PLAY	——	——
FF	P-OFF	EJECT	STOP	REW	CUE	PLAY	——	——
REV	P-OFF	EJECT	STOP	——	CUE	PLAY	STILL	——
CUE	P-OFF	EJECT	STOP	REV	——	PLAY	STILL	——
PLAY	P-OFF	EJECT	STOP	REV	CUE	——	STILL	——
STILL	P-OFF	EJECT	STOP	REV	CUE	PLAY	PLAY	REC PS
REC	P-OFF	——	STOP	——	——	——	REC PS	*1
REC/PS	P-OFF	——	STOP	——	——	——	REC	——

*1: VISS WRITE

Pressing two keys simultaneously, the key operation is going to be ineffective.

In case the unit goes to CUE/REV lock mode by pressing FF/REW key lightly during Play mode, CUE/REV mode will be returned previous mode when FF/REW key is pressed more than 0.7 seconds.

8-13. Power on reset

When the power is turned on, the unit is going to reset and the following datas are cleared.

(1) Position switch data

(2) Operation mode data

(3) Prohibition flags

In case the mechanism is in cassette down position, tape slag is removed as the initial operation and the unit goes to STOP3 position.

8-14. Linear time counter operation

The counter value will be gone up/down by counting control pulse. As for NTSC system during Play/Rec mode, counter value goes up/down every 30 pulses. As for PAL system during Play/Rec mode, counter value goes up/down every 25 pulses.

8-15. Tape speed in CUE/REV mode

	NTSC	PAL
Standard	9 times	11 times

8-16. Automatic functions

(1) Automatic Power on

① Under power off, when a cassette tape is inserted, power is turned on automatically and cassette tape is loaded.

② Under power off and a cassette tape has been inserted, when PLAY key is pressed, power is turned on automatically and goes to PLAY mode.

(2) Automatic play

When a cassette tape removed safety tab is loaded, the mode goes into Play mode.

(3) Automatic rewind

When tape running is reached to the end of tape, automatically goes to Rew mode and stops when tape running will be reached to the beginning of tape.

In case of Timer recording, short Rew is performed for 2 seconds and power is turned off when tape running is reached to the end of tape.

(4) Power off and Eject

Under power off and a cassette tape has been inserted, when Eject key is pressed, a cassette tape is ejected and power is turned off

8-17. CUE/REV lock mode

When FF/REW key is pressed lightly (less than 0.7 seconds) during Play mode, unit goes into CUE/REV mode. To release CUE/REV mode, FF/REW key should be pressed more than 0.7 seconds.

8-18. FR (Forward/Reverse) search mode

When FF/REW key is pressed during FF/REW mode, unit goes into CUE/REV mode.

To release CUE/REV mode, FF/REW key have to be pressed.

8-19 FF/REW speed

Maximum tape speed is approximately 3.0 m/s during the stable running.

8-20 FF/REW time

The tape running from the beginning to the end of T-120 type (E-180 type) cassette tape is able to be completed within 150 seconds.

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